Author:
Cheng, M S

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Exploring the impact of giving and receiving peer feedback on associate degree students' Chinese academic writing

EXPLORING THE IMPACT OF GIVING AND RECEIVING PEER FEEDBACK ON ASSOCIATE DEGREE STUDENTS' CHINESE ACADEMIC WRITING

by

MEI-SEUNG CHENG

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ABSTRACT

This study sets out to investigate the cognitive effects of receiving and giving peer feedback on learning in terms of task performance and learning satisfaction, drawing on groups of students taught by the researcher in a Chinese academic writing course in a Hong Kong community college. The study employed a mixed-method design involving the use of quantitative (quasi-experiment and surveys) and qualitative (interviews) data, from which three major findings emerged.

First, the students who gave feedback after having received it on an earlier task (receive-then-give condition) performed slightly better than those who received feedback after having given it (give-then-receive condition), but in neither of the treatment groups could the performance of the students be distinguished statistically from that of the students in the no-feedback control condition, possibly due to the limitations of the study's design. Second, the students shared that they reflected more on their own academic work if they were able to read more relevant work when they reviewed their peers' essays. The feedback they received in evaluations of their own work also scaffolded their learning and prompted them to develop new strategies when they encountered similar problems again. Finally, a majority of students agreed that peer review was somewhat useful after the study, although dissatisfaction associated with the quality of peer feedback was also expressed.

The findings also help to meet each of the goals of the policymakers, the college educators and the students. For policymakers, peer review enables the students to reflect on their own academic performance and regulate their behaviour to achieve their goals. It is a strategy to promote learner autonomy in which the students can take control and responsibility for their own work to meet the needs of the fast-changing economy. For college educators, the reflection encouraged in peer review reduces the teachers' workload. For students, such a process also strengthens their cognitive thinking skills, benefits their task performance, improves their marks and their chances of articulation. It is recommended that if peer review as an assessment and instructional approach is to flourish in Hong Kong higher education, further research is needed to better understand its impacts on student long-term writing development.

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DECLARATION

I declare that the work in this dissertation was carried out in accordance with the requirements of the University's *Regulations and Code of Practice for Research Degree Programmes* and that it has not been submitted for any other academic award. Except where indicated by specific reference in the text, the work is the candidate's own work. Work done in collaboration with, or with the assistance of, others, is indicated as such. Any views expressed in the dissertation are those of the author.

SIGNED: _____

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CHAPTER 1 Introduction

1.1 Background of the study

The massification of higher education

In the past few decades, the world has witnessed rapid globalization, a complex process in which the world is being moulded into a shared social space by economic and technological forces (Levin, 2001). This process involves the transfer of knowledge, technology, social values, and behavioural norms in various parts of the world. To maintain their competitiveness in this shared social space, international companies have to move further up the value chain and perform activities in any location that can help reduce costs, so that they can continue to grow and expand across borders (Cheng, 2000). They need to hire well-educated employees who are more likely to develop new and valuable innovations to improve companies' business performance (Levy & Murnane, 2007).

To produce enough graduates to meet the demand of companies, the governments of many countries and regions have expanded their higher education systems to accommodate students of different social levels, offering learning opportunities to citizens who have previously had little access to higher education (Mok, 2009). The tidal wave of higher education massification has influenced the higher education sectors in the Asia-Pacific region over the past two decades; South Korea, Japan, Taiwan, Hong Kong, and mainland China have recorded a large number of students entering university (Mok & Jiang, 2017).

In response to the trend towards massification in higher education, the Hong Kong Government has committed to nurturing lifelong learners. As reported in a consultative document to the (HKSAR Education Commission, 2000, p.32), "[h]igher education should …provide students with learning experiences in multiple disciplines, help them develop broad-based knowledge and vision, as well as enhance their problem-solving power and adaptability". In his 2000 Policy Address (Hong Kong Special Administrative Region [HKSAR] Government, 2000), Chief Executive Tung stated that he was aware that, compared with other Asian countries such as Singapore and Japan, a relatively small

segment of Hong Kong's population was receiving a higher education (HKSAR Government, 2000). Considering that Hong Kong had been moving towards a knowledge-based economy, and the city needed more young people to receive a postsecondary education in order to sustain high economic growth, Tung (HKSAR Government, 2000) decided to increase the percentage of senior secondary school leavers receiving a postsecondary education from 32% to 60% within 10 years. A new subdegree qualification, the associate degree (AD), was launched. Self-financing community colleges were established to provide subdegree, including AD, programmes for local applicants who had completed their senior secondary education in Hong Kong. Since then, Hong Kong has rapidly transformed its higher education system from an elite to a mass system.

To address the government's goal for AD students to develop "broad-based knowledge and vision", as well as "problem-solving power and adaptability" (HKSAR Education Commission, 2000, p. 32), the curricula of AD programmes are often concerned with the development of self-direction or self-regulation. Both terms refer to skills that are essential in a global economy (Dynan et al., 2008). Self-directed learning is an umbrella term which covers a wide range of related concepts, such as self-management, learners' control, and self-regulation (Education Bureau, n.d.). In this thesis, the term *self-regulation* will be used for the ease of discussion.

Self-regulation refers to the capacity that individual learners use to cognitively monitor their performance in order to attain their learning goals (Zimmerman, 2002). Effective self-regulated learners can identify problems, analyse information and discover possible solutions to problems systematically rather than by intuition or instinct (Mak & Wong, 2018). Such capacity can enhance students' employability as they are able to synthesize new knowledge in the learning process, and grasp new knowledge and skills quickly at work ([HKSAR] Education Commission, 2000). If students want to continue their studies in higher education, the emphasis of self-regulation in the AD programmes enables them to develop a deep understanding of subject matter which improves their task performance and increases their chances of articulating to university. In addition, for AD students who perform satisfactorily in their first or second year, community colleges provide them with an alternative route to university programmes. They could be admitted

to senior year undergraduate degree places (third or fourth year) on publicly funded degree programmes (HKSAR Government, 2000).

Research problem of this study

In 2000, a new subdegree qualification, the AD, was introduced in Hong Kong to build an effective workforce for the economy. However, such a policy aim, I argue, is disconnected from the goals of college educators and the expectations of students with regard to learning in this specific context.

College educators have to face the pressures for efficiency and productivity in the competitive self-financing higher education sector. With increased students' expectations, they may need to behave like service providers in globally competitive businesses (Naidoo & Jamieson, 2005). For example, college educators invite students to complete surveys or to attend meetings to share their satisfaction with the courses they have taken. On the basis of the results of these surveys and meetings, they will adjust some details of courses according to the students' needs. To ensure that students receive good quality teaching, the use of student-centred pedagogy and formative assessment are often emphasized by colleges to secure students and their fees in the competitive subdegree sector. Some researchers have used the metaphor "student as consumer" (SAC) to describe such a learning culture, with a shift in power from the education provider to the student consumers (e.g., Bunce et al., 2017; Crisp, 2007). However, instead of using student-centred pedagogy, the existing one is often teacher-centred without expecting the students to engage in the process. For example, the provision of teacher written feedback is dominant in higher education; this type of feedback is considered as a one-way communication that "carries almost all the burden of teacher-student interaction" (Nicol, 2010, p. 501). Also, formative assessment is not frequently used by the teachers. Instead, assignment scores associated with teachers' written commentary are provided to students when marking has been completed (Nicol, 2010; Yang & Carless, 2013). These scores are usually not available during the learning process; rather, they are given to students after a task has been completed (Butler & Winne, 1995). Because the teacher-centred pedagogy prevails over the student-centred pedagogy, and the summative assessment prevails over the formative

assessment, college educators may find it challenging to demonstrate the effectiveness and efficiency of their programmes.

As regards college students, some of them may think they are "buying" learning opportunities from community colleges to articulate to university. However, paying their own tuition fees does not guarantee an academic seat at the university, as in Hong Kong, the transition from community colleges to universities is not seamless. The massification of higher education in Hong Kong is limited to the subdegree sector, while the number of undergraduate courses has changed little (Kember, 2010). This means there remains a huge gap between the unmet demand for and the limited supply of government-funded university places, and not many students can use their second chance to get a transfer to the university. Considering that recognition of the new sub-degree qualification is yet to be clearly established in the Hong Kong society, and if getting a university transfer is the main reason for students studying in community colleges, dissatisfaction can be anticipated when their expectations are not fulfilled (Kember, 2010).

Also, in the existing assessment practice in community colleges, emphasis is placed on students' writing products rather than the process (Lam, 2013). As only the final writing outputs are marked in summative assessment, students often prefer the teacher to provide *direct* feedback, with suggestions or explicit answers to problems in the drafts of their work, so that they can, to certain extent, "rubber-stamp" the teachers' comments into their own work. However, always relying on teacher feedback may not necessarily benefit learning. The effectiveness of teacher feedback in terms of improving task performance remains unknown if the teacher feedback is too academic for the students to understand (Duncan, 2007). In fact, feedback which includes explicit answers is often associated with surface-level changes to essays (Lundstrom & Baker, 2009). Such changes are highly task specific and are often related to the mechanics of writing, such as spelling, grammar, and punctuation, and thus require only simple repairs to sentences (e.g., Hu & Lam, 2010; Yang, 2016). The changes are difficult to generalize to other tasks and may have little impact on lifelong learning (Hattie & Timperley, 2007). Furthermore, learning becomes "spoon-fed" if there is a lack of opportunities for students to act or think for themselves. Thus, it is

difficult to see how they can be empowered and develop the self-regulation skills needed to prepare themselves for lifelong learning (Kong, 2014; To & Carless, 2016).

1.2 Rationale for using peer review in the study

The above section described the disconnected goals among subdegree policymakers (to build an effective workforce for the economy), college educators (to ensure programme quality), and students (to articulate to university).

The current study aims to use peer review to serve the goals of subdegree policy makers, college educators, and students. For the policymakers, the feedback receiving and feedback giving process in peer review can be considered as cognitive strategies that help students analyse and interpret the information they have collected. The process helps students develop deeper thinking and become productive citizens who can meet the needs of a global society.

For the college educators, peer review provides opportunities for students to share ideas and clear up misunderstandings through dialogue. It is a student-centred formative assessment that supports learning, and therefore helps to ensure programme quality. The emphasis on student-centred learning in peer review is also important for community colleges to establish their reputation in the competitive self-financing higher education market in Hong Kong.

From the students' perspective, formative assessment supported by peer review enables them to give comments evaluating the work of others and to receive peers' comments to revise their own work while learning is still happening (Yu, 2019). It can help improve academic performance, as students can use what they have learnt in subsequent assignments. Therefore, peer review may imply a higher chance of articulating to university.

1.3 Research purposes and questions

Situated within the Vygotskian (Vygotsky, 1978) sociocultural theory of learning, the present study investigated the effects of receiving and giving peer feedback on task performance and learning satisfaction in an AD academic writing course in a self-financed community college in Hong Kong. It addressed the following research questions:

RQ1: What were the effects of receiving and giving peer feedback on task performance in the Chinese academic writing course? Did the effects depend on the order of the feedback process?

RQ2: How and in what respects were the students satisfied with the usefulness of peer review before and after the study?

RQ3: From the students' perspective, how and to what extent did they learn and benefit from engaging in the feedback process on their essays?

To address RQ1, an experimental manipulation was used to investigate the relationship between the feedback conditions and the change in performance from task to task within a semester of an academic course. The term *feedback conditions* was used to describe the ordering of the feedback experience the students encountered. Some students received feedback evaluating their essays and then performed a review themselves by giving feedback on other essays prepared by their classmates; this was called the *receive-then-give* condition. Others first gave feedback to evaluate an essay and then received feedback regarding their performance on another essay; this was called the *give-then-receive* condition. There was also a no feedback condition in this study: Under this condition, students received a conventional form of instruction in learning academic writing without engaging in any peer reviews.

To address RQ2, students' learning satisfaction with peer review was also explored through the data collected from surveys. They were also invited to attend semistructured interviews to share how and to what extent they had benefited from the feedback process. The respective data collected were used to address RQ3.

1.4 Significance of the study

Previous research has mainly focused on the change in task performance brought by the receipt of peer feedback, with few studies exploring how engaging in the feedback giving process in peer review can also benefit learning (Nicol et al., 2014). The current study aims to extend the research to consider both feedback receiving and feedback giving in peer review as cognitive strategies to guide the students' own work. It is interested in finding out in how these strategies affect the immediate change in students' academic performance from task to task. The study also reports the students' satisfaction with their feedback experience, and their perceptions of the usefulness of peer review in the long term, which is a relatively unexplored area in the field (Yu & Lee, 2016). The results provide an initial step towards a theoretical understanding of the potential benefits of peer review.

1.5 Conclusion

This chapter has explained how the AD, a relatively new subdegree qualification, was established by the Hong Kong Government as part of its policy response to globalization. I have argued that there is a disconnection among the policy aims, the goals of the educators, and the expectations of students with regard to their learning in this specific context. The current study used peer review to address this disconnection and explore its impacts on task performance and learning satisfaction.

Chapter 2 will provide a conceptual framework for this study through a survey of the literature findings. Utilizing Hattie and Timperley's (2007) feedback model, it will also illustrate how peer review is conceptualized as a process to help students take control of their own learning and become self-regulated learners. The notions of zone of proximal development (ZPD) and scaffolding will also be used to illustrate how peer review affects both the receivers and givers of feedback in the learning process. The last sections will identify the gap in the literature and provide a chapter conclusion.

Chapter 3 will cover the research methodology. This study is positioned in postpositivism—that is, I believe that science is the way to get at truth and to gain an understanding of the world—and so I used a quasi-experiment to investigate the impacts of peer review on task performance. Being aware that my observations may be biased, I also adopted surveys and semistructured interviews to triangulate the data in order to get a better understanding of what is happening in reality. Details of each method (quasi-experiment, surveys, and semistructured interviews) will be described in Chapter 3. The final part of Chapter 3 will address the results of the pilot study which informed the present study and also discuss the ethical considerations.

Chapter 4 will analyse (a) the results of the quasi-experiment to illustrate the effects of peer review on task performance and (b) the surveys and semistructured interview findings to explore the learning satisfaction brought by peer review from the students' perspectives.

Chapter 5 will provide a summary and a discussion of the findings, followed by the implications of the study's results at the theoretical, practical, cultural, and policy levels. The chapter will also discuss the limitations of the present study and provide recommendations for future research to foster the development of students' academic writing through the adoption of peer review.

CHAPTER 2 Literature review

2.1 Introduction

The current chapter reviews the relevant literature and research studies related to the impacts of peer review on learning. It begins with the conceptual analysis of the meaning of feedback from various aspects (i.e., "level") in Hattie and Timperley's (2007) feedback model (Section 2.2). The discussion goes on with a description of the theoretical notions of the ZPD and scaffolding from the sociocultural theory of learning (Vygotsky, 1978) (Section 2.3). Focus is placed on how the peer feedback that the students received, and the rubrics that the students used when they provide feedback to others, can be regarded as a form of scaffolding that assist learning. The literature gap is then identified (Section 2.5), and the last section concludes the chapter.

2.2 Hattie and Timperley's (2007) feedback model

Hattie and Timperley's (2007) feedback model views feedback both as the information provided by external agents and the meaning constructed by the learners themselves. Such an understanding of feedback is in line with the focus of this study, and therefore, their model is used to explore how peer feedback helps students take control of their own learning. Specifically, Hattie and Timperley's (2007) feedback model includes four levels: task level, process level, self-regulation level, and self-level. The discussion in this study focuses on the first three levels of the model (i.e., task level, process level, self-regulation level) to assess how feedback occurs in higher education setting. The feedback which focuses on the quality of work that the students produced operates at the task level; how feedback functions in the process and the self-regulation level will be further explained by using the notions of Vygotsky's (1978) sociocultural theory. Finally, the last level (i.e., self-level) is excluded in the current discussion as it refers to personal feedback, which is unrelated to the focus of this study.

Feedback at task level

Feedback in the context of education is generally regarded as the information summarizing students' achievements, and such information should be able to help receivers address their knowledge gap "between what is understood and what is aimed to be understood" (Hattie & Timperley, 2007, p. 102). If a misinterpretation of fact, for example, is the cause for the knowledge gap, according to Hattie and Timperley's (2007) model, feedback with the correct information can be used to shorted the gap; that feedback occurs at task level and is useful to the learners when the learners lack necessary knowledge or skills to complete a task. For example, teachers in a school setting often provide explicit answers to a specific problem that the students committed; such type of feedback is called direct (Ferris & Roberts, 2001) or directive (Shute, 2008; Cho & MacArthur, 2010; Robinson et al., 2013) feedback. Direct feedback is often task specific, and it may be too difficult to generalize such feedback to other tasks (Hattie & Timperley, 2007).

Feedback at process level

Feedback at the process level refers to the advices or suggestions provided to the feedback receivers about what and how they should prepare for the task (Hattie & Timperley, 2007). When learners receive the feedback, they may not directly use it, but instead conducting more information search to verify its validity. In the process, the learners may develop their own understanding on the task requirements. A meaning-making process on the new knowledge is involved (Dawson et al., 2019; Yu, 2019). Students may then use their own understanding on the work they have completed and use it to improve their performance.

The feedback shared in peer review belongs to this type. Peer review offers an opportunity for learners to share their perspectives on how a task should be prepared. Feedback in this context is called *indirect* (Yu & Hu, 2017), or facilitative (Shute, 2008) feedback. Although indirect feedback may not provide explicit solutions or answers to the work of others, it exposes students to the work of peers and to different perspectives about how tasks should be performed. The process also encourages the students to self-reflect their understanding on the task requirements even without any teacher input (McConlogue, 2015; Nicol et al., 2014, 2019).

Feedback at self-regulation level

The impacts on peer review does not just stop at bringing more information search on a specific task or self-evaluation on learners' academic performance. The peer feedback can act as an inherent catalyst for more reflection, and then develop learning strategies by regulating their behaviour towards their learning goals (Zimmerman, 2002).

To further develop our understanding of peer feedback that operates at the self-regulation level, the following section discusses the theoretical notions of Vygotsky's (1978) sociocultural theory of learning in which this study is situated. Attention will be paid to how peer feedback facilitates individual learners' cognitive development within their ZPD through the help of others (i.e. scaffolding).

2.3 Zone of proximal development and scaffolding

Vygotsky's sociocultural theory of learning suggests that knowledge construction should not be sought in the mind of individual learners, but in the social mediated activity co-constructed between a more knowledgeable individual and a less knowledgeable individual (Lantolf & Poehner, 2008). When students are asked to perform a writing task, for example, some can complete it on their own efficiently while others cannot. Vygotsky (1978) argued that this was because individual learners have two cognitive levels: the actual and potential development levels. Some students can manage a given task that is beyond

their actual development level and complete it independently. However, if the task is above their actual level, the knowledge and skills required to complete the task exceed the students' understanding, meaning that they do not currently have the ability to handle the task on their own. They have the potential to do so in the future, but first they need to learn the necessary knowledge and skills from another. The limit to which the students could achieve a certain task if they were assisted by others (i.e., scaffolding) is called the potential level, and the area between the actual level and the potential level is called ZPD.

In this study, the students were engaged in peer review which includes two feedback conditions (i.e., give-then-receive and receive-then-give). By engaging the students in these conditions, they learn from each other (i.e. scaffolding) within their ZPD. They acquire different skills and knowledge to achieve tasks they originally could not complete on their own. The aim of doing this is to trigger their higher order thinking through the process of feedback giving and receiving, hoping that they dig deeper into their thoughts regarding how they should perform the task to fulfil the learning goal.

Precisely how and to what extent does engaging in the feedback process in peer review promotes self-regulation in school settings? The following section offers a robust account of the respective cognitive effects on learning gleaned from research informed by the receiving and giving feedback processes.

Learning by receiving feedback

As previously mentioned, students can be scaffolded by receiving useful information, which includes correct information about how a task was performed (see Section 2.2, "Feedback at task level"). Over the past three decades, many research studies have explored how peer feedback can scaffold the revision process, particularly in regard to the mechanics of writing such as spelling, grammar, and referencing (e.g. Yu & Hu, 2017; Li et al., 2010).

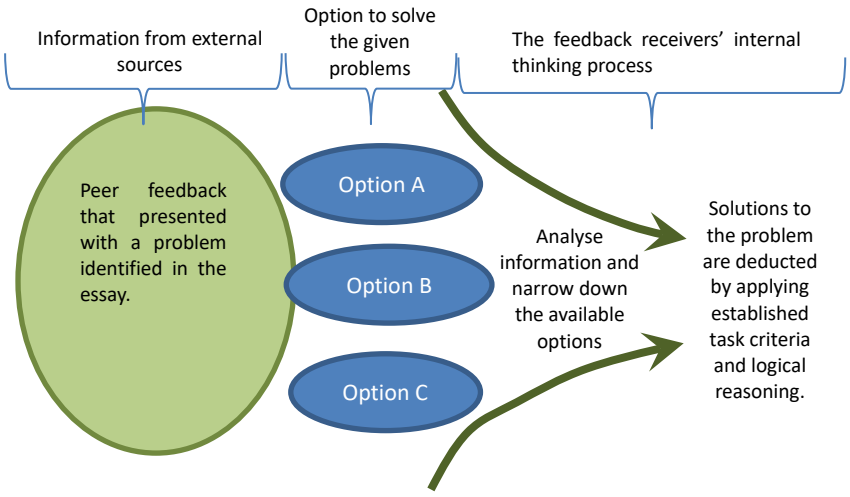
In contrast to the potential effects of receiving feedback on learning reported above, national surveys, such as the 2020 National Student Survey (Office for Students, 2020) in the United Kingdom, and the 2017 Student Experience Survey in Australia (Bhardwa, 2017), have consistently reported students' general dissatisfaction with the assessment and

feedback received on their courses, compared to other aspects of their studies in their respective higher education sectors. Dawson et al. (2019) were aware that students and teachers have different understandings of feedback, which could be part of the reason for the dissatisfaction. Questions in surveys tend to ask if students are satisfied with the quantity and quality of the comments they received during a course (Pitt & Winstone, 2017), without considering that feedback can also be understood as a meaning making process.

When the students receive peer feedback, they use convergent thinking to analyse the feedback they received and the information they obtained (Figure 2.1). That feedback or the information can be considered as a catalyst mediates the students' higher order thinking. Through times, the feedback receivers become more aware of the audience expectations after repeatedly reading peer feedback provided by different individuals. Students' actual development level is raised, from the sociocultural perspective, enabling them to complete more challenging tasks which they previously would not have been able to do on their own. Subsequently, more self-regulation over the learning process can be observed when the feedback assists students to develop strategies to solve the problems in their own work. and increases their cognitive level within their ZPD (Vygotsky, 1978).

Figure 2.1

Convergent Thinking Involved in Receiving Peer Feedback: Options A, B, and C Represent the Different Ways to Revise an Essay Offered by the Feedback Givers



Learning by giving feedback

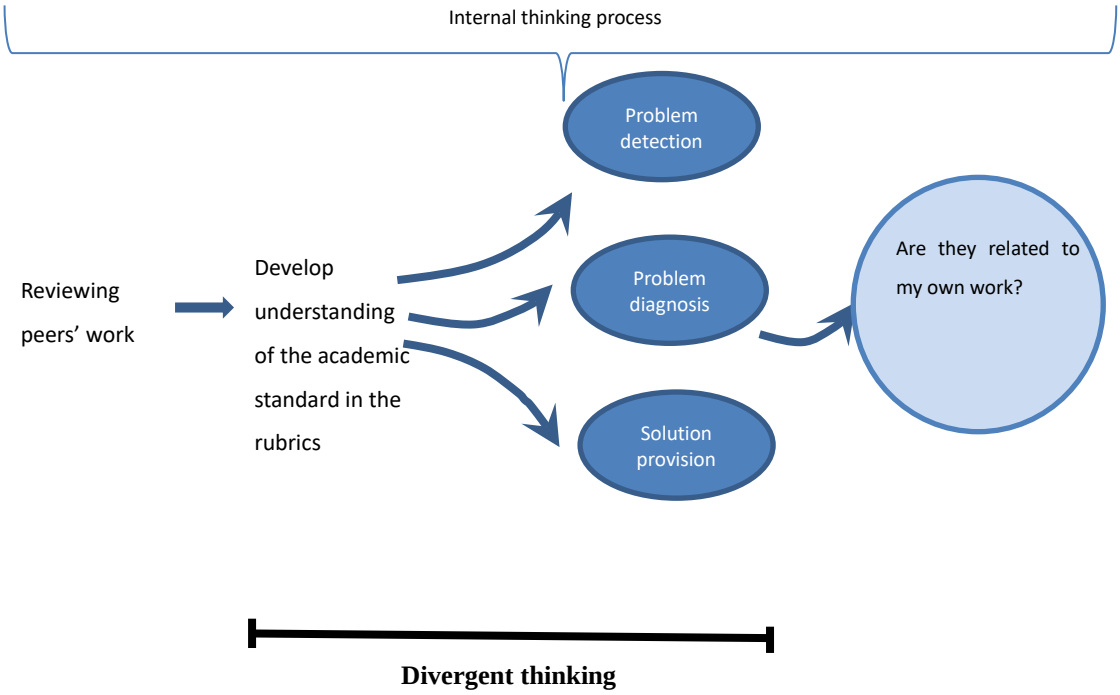
In the past decade, there is a relatively new strand of research arguing that students could be benefited by actively engaging in reviewing the work of the others (Dawson et al., 2019). Tai et al. (2018) suggest that task rubrics can also be thought of as a scaffold to support the development of a higher level cognitive ability, termed as *evaluative judgement.*

Specifically, the rubrics are designed as a guide pinpointing the standard that the students need to consider during the process of reviewing. Greenberg (2015) said that instead of asking students to sit through lengthy training, providing them with a rubric containing a clear explanation of the task criteria would be good enough to enhance their understanding of using it. In her study, the students who used a rubric as a guide to draft their reports produced higher-quality outcomes than those who did not use it. This is probably because, based on the rubric, the feedback givers can practice divergent thinking more easily when they search for strategies to fix the problems that identified in the essays they reviewed (Patchan & Schunn, 2015; see also Figure 2.2).

As an alternative to rubrics, feedback forms, which include descriptions of criteria and space for making comments, are also widely used by researchers (Cao et al., 2019; Lam, 2013; Mulder et al., 2014; Zhu & Carless, 2018). In addition, studies have shown that students who follow the steps embedded in the forms are more likely to appreciate the usefulness of peer feedback than those who ignore them (Cao et al., 2019).

Figure 2.2

Divergent Thinking Involved in Giving Peer Feedback



Studies consistently reported that in a university setting, task performance of the students who have previously engaged in giving feedback was improved compared with those who did not engage in this condition (e.g. Cho & MacArthur, 2011; Greenberg, 2015). Cho and MacArthur (2011) explained that the feedback givers needed to act upon their cognitive thoughts to give a rating, compared with those who did not engage in giving feedback; in such a process, the students develop a deeper understanding of the task requirements and the ability to make academic judgements on essay quality. With a better sense of academic judgement, the students may regulate their learning behaviour and work out feasible solutions to improve task performance when they prepare similar essays in the future (Patchan & Schunn, 2015; Huisman et al., 2018). Greenberg (2015) added that the students can revise their essays by simply following the expected standard in the rubric, helping students develop their self-evaluation skills.

Despite the possible impacts shown on task performance, researchers are aware that not all students enjoy giving feedback. There are two possible reasons for this. First, some students may lack the confidence to provide useful feedback, thinking that if they may say something wrong and "mess things up" (Yu, 2019, p. 45) or disrupt their relationship with their peers (Cao et al., 2019). Second, some students may not want to engage in the discussion process as they are disinclined to spend a considerable amount of time explaining sophisticated concepts to students with lower language proficiency (Hu & Lam, 2010).

Separating the feedback giving and receiving processes, and use only written feedback is considered as a useful strategy to minimize student dissatisfaction; using only written feedback means that students do not see each other when they criticize their peers' work (Kim, 2009). The quality of written comments should be better than that of verbal comments because there is more time for the students to think about their tone before putting their thoughts into words. It is also useful to hide the names of feedback givers as receivers may feel offended if the comments are given by less competent students.

In short, engaging the students in giving feedback can benefit the students' learning, probably more than if they are just assessed (Reinholz, 2016). The process enables them to develop the judgemental ability which is vital for them to evaluate their own progress and think about what they need to do next in order to improve their own work towards their learning goals. By doing so, the aim of subdegree policy which is to develop the students' self-regulation skills is achieved. This may also help reduce their overreliance on teacher feedback, avoiding the feeling of dissatisfaction with the amount of feedback provided (Robinson et al., 2013).

2.4 Literature gap

The above review of the small body of research on feedback indicates that having more than one peer review opportunities can potentially deepen students' understanding of the assessment criteria and balance any negative effects evoked by poor quality feedback (e.g., Kim, 2009; Zhang, 2018; Li et al., 2010). However, in the existing literature, there is little research focused on the potential of engaging students in two peer review exercises.

To fill this literature gap, this study used a two-stage design to offer two peer review opportunities for students to use peer feedback to improve their academic writing. It engaged students in two different sequences of feedback receiving and feedback giving, namely the receive-then-give and give-then-receive conditions. Precisely, in this study, the subject that the students were studying required them to submit three academic tasks (Task 1, Task 2, and Task 3). One peer review exercise was held after the submission of Task 1 and Task 2, respectively. Thus, the students were able to apply what they had learnt from the feedback in the peer review exercise when they were working on the subsequent task.

In the receive-then-give sequence, students are supported by the sociocultural framework in which those who have experienced peer review before are likely to provide feedback to scaffold the work of the others (e.g., in this study, the students received feedback on their Task 1 performance in the first peer review exercise). This experience helps students to reflect on their own performance based the peer feedback they received. Then formulate their own understanding of the assessment criteria (Zhang, 2018). When they are then given another opportunity to evaluate the work of others, they exercise this understanding and are more sensitive to the problems when they return to their own work. The second experience further deepens their writing knowledge and skills, thus positively improving their own task performance. Ultimately, the process furthers their learning autonomy and control and decreases their need to receive information from external agencies (Nicol et al., 2014). This condition is particularly suitable for students who do not have relevant assessment experience as they may not be able to provide suggestions regarding the work they review without the help of others.

In the give-then-receive sequence, students first give feedback evaluating other students' work on a task (e.g., Task 1 in this study). The feedback givers need to apply the expected standard to the work being reviewed and thus come to understand the academic standards they need to achieve (McConlogue, 2015). The judgements they develop are useful for evaluating their own performance level and assist them to make revisions when they return to their own work. When they later engage in another similar task, the judgements they developed in their previous experience could be used to evaluate the feedback they receive. The thinking process involved can sharpen students' self-regulated skills, emphasizing learners' autonomy in monitoring, directing, and regulating actions toward learning goals. As such, the ideas students formulate on their own work following a give-then-receive approach become more pertinent in helping them to achieve their learning goals.

By comparing task performance in these two feedback conditions against that in a control group (where students did not engage in any peer review), the current study aimed to provide insights into the learning process of peer feedback and offer pedagogical implications for teachers who are interested in using peer feedback in their classrooms.

2.5 Conclusion

This chapter first reviewed Hattie and Timperley's (2007) conceptual analysis of feedback by describing their model of feedback which included four levels, namely, task level, process level, self-regulation level and self-level (Hattie & Timperley, 2007). The discussion in this study was focused on the process level and the self-regulation level s regarding how peer feedback affected task performance. In their feedback model, the teacher direct feedback which related to the quality of the students' final outputs operated at the task level. The peer feedback, which was the focused of this study, was operated at the process and the self-regulation levels (Hattie & Timperley, 2007).

Vygotsky's (1978) perspectives on knowledge construction, and learning as a mediated activity from social to individual was then discussed. The theoretical notions, the ZPD and scaffolding from his sociocultural theory (Vygotsky, 1978) was presented in explaining why some individual learners can manage a given task while the other cannot. then discussed. Discussion continued how peer review operated at the process level and self-regulation level facilitated individual cognitive development within their ZPDs through the help of others.

Attention was then placed on how scaffolding occurred in the feedback receiving and feedback giving process in peer review. In the feedback receiving process, students can be scaffolded by receiving useful information to complete a task, while in the feedback giving process, rubrics can also be thought of as a scaffold to support the development of a higher level cognitive ability, termed as evaluative judgement (Tai et al., 2018). Studies showed that learning by giving feedback can improve task performance (Greenberg, 2015), as well as developing the students' cognitive skills. These skills could help students solve the problems they face in any subject, thereby sustaining their lifelong learning (Yu, 2019).

Lastly, a literature gap focusing on the potential of engaging students in two peer review exercises was identified. The current study used a three-stage design to offer two opportunities for students to use peer feedback to improve their academic writing. It engaged students in two different sequences of feedback receiving and feedback giving, namely the receive-then-give and give-then-receive conditions. The last section concluded the chapter.

CHAPTER 3 Methodology

3.1. Introduction

This chapter explains the philosophical stance that informed the methodology of this study: postpositivism (Section 3.2). The priority, implementation, and integration of the data collected from the components of this study are discussed, followed by an overview of the research setting and the recruitment of participants and details of how peer review exercises are incorporated into the AD course examined in this study (Section 3.3).

Attention is then paid to the details of each component of the research design (Section 3.4, Section 3.5, and Section 3.6). An overview of each component is first presented, followed by the design procedure, the development of the tools or materials used in each component, analysis methods, and the validity and reliability of the data within each component. A pilot study was conducted prior to the main study. The ways in which the results of the former informed the latter are reported in Section 3.7. Relevant ethical considerations are discussed (Section 3.8), followed by a conclusion (Section 3.9).

3.2. Theoretical perspective of the study

The theoretical perspective used to inform this study is postpositivism. I believe that knowledge exists in objective reality, and thus I adopted a quasi-experiment method to discover the relationship between feedback condition and task performance. I also recognized the limits of my ability to represent and understand this reality with certainty. As Crotty (1998, p. 29) elaborated, the philosophical stance of postpositivists: “talks of probability rather than certainty, claims a certain level of objectivity rather than absolute objectivity”.

I was a teacher practitioner who carry out the study in my own institution. I believe that the effects of peer reviews on task performance can be evaluated empirically, and I used a quasi-experiment to analyse the task scores that were collected at different time points in a semester, before and after an intervention. I also used surveys and semistructured interviews to provide details of how students perceive the usefulness of peer reviews to complement the results of the experimental manipulation. Thus, this study employed a mixed-method design including three components: quasi-experiment, interviews, and surveys.

This proposition may seem to be consistent with a positivist paradigm, but I was not convinced about positivism's overly confident belief that everything can be known through science. For example, the way that I interpret the data may be limited by understanding of the phenomenon under study and there are potential biases within the research. Also, as an insider researcher, my enthusiasm for peer review may influence students' perceptions about the usefulness of peer review in this study. In view of this, I have adopted various strategies, which will be discussed in Section 3.5 "Ethical Consideration" to avoid these problems.

3.3. Research design

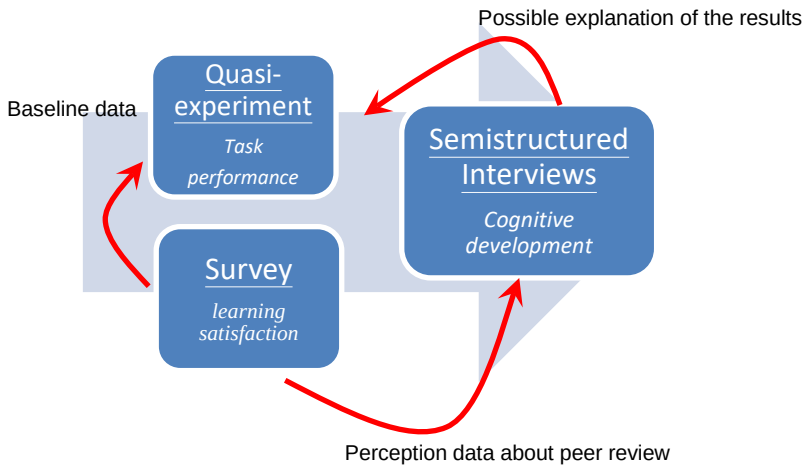
This section first discusses the issues of priority, implementation, and integration of the data collected from the three components (quasi-experiment, surveys, and interviews) in the present study. The discussion is followed by an overview of the research setting in regard to the selected college, course, and participants; the recruitment of participants; and the way in which peer reviews are incorporated into the existing course curriculum in an AD course in Hong Kong.

Priority, implementation, and integration

In any mixed-method design, researchers must deal with the issues of priority, implementation, and the integration of quantitative and qualitative approaches to data collection and analysis (Ivankova et al., 2006). To examine the impacts of peer review on actual task performance, a quasi-experiment was used in this study to investigate the effect of peer feedback conditions on task performance. Surveys were used to collect baseline data indicating group differences to support the experimental analysis and to explore students' overall perceptions of peer review. A semistructured interview was used to invite the students to recount whether or not, on the basis of their experience, their cognitive thinking had developed as a result of engaging in peer review. In short, the quasi-experiment received more weight than the surveys and semistructured interviews; the surveys and interviews performed complementary roles, supporting the analysis or elaborating on the experimental results (Figure 3.1).

Figure 3.1

The Three Components of the Mixed-Method Design of this Study



Implementation refers to the sequence of data collection and analysis (Ivankova et al., 2006). This study adopted a sequential explanatory design with an initial quantitative phase and a follow-up qualitative phase (QUAN→qual) (Meissner et al., 2011). The quantitative data (experiment and survey) were collected first, followed by the qualitative data (interviews), and finally both types of data were analysed at the end of the process. Table 3.1 shows the timeline of data collection for the three components in this study. The teacher-rated task scores representing task performance were collected at weeks 6, 12, and 13, and these data were used for experimental analysis. The interviews were conducted after the completion of the semester. The surveys (prestudy and poststudy) were conducted at the beginning and end of the semester. The data analysis was conducted after the interviews.

Table 3.1

The data collection sequence of the three components in this study.

Component	Week 1	Week 6	Week 12	Week 13	After semester
Quasi-experiment		Task score	Task score	Task score	
Semistructured Interviews					Students' perceptions of peer review
Survey	Questionnaire (prestudy)				Questionnaire (poststudy)

Finally, the integration of qualitative and quantitative research in mixed-method research draws upon the strengths and perspectives of each method (Östlund et al., 2011). In any mixed-method study, the purpose of the research integration should be clear in order to determine how the findings should be integrated. In the current study, the experimental analysis was supported by the survey data regarding treatment and control group differences at baseline. The semistructured interviews and the surveys were then conducted to explore students' previous and current feedback experience, which may explain the results of the quasi-experiment. Hence, the purpose of the integration was to offer a comprehensive understanding of the effects of peer review, thus guarding against any potential bias as a result of using just one type of data.

Research setting and participants

The college used in this study is currently the largest AD provider in Hong Kong with the largest number of student enrolments, offering 36 self-financed AD programmes for secondary school graduates. I am one of the college teachers teaching a course entitled Chinese Communication for College Students (course code CCN1003). I was responsible for teaching students from the BC and BUS programmes at the time this study was conducted.

The course selected for this study is a compulsory element of all AD programmes in the college. It includes 3 hr of classes a week (a 2-hr lecture and a 1-hr tutorial), giving a total number of 39 class contact hours during the 13-week semester. The major aim of this course is to give students a general understanding of the basic principles of writing argumentative essays, including ways to present a logical argument, compare different points of view, and conclude with an overriding opinion or argument in Standard Chinese, an official Chinese language in mainland China. Students need to complete five assessment tasks within the semester. Three of the tasks are individual-based academic writing tasks, and these were the focus of this study (Table 3.2).

Before the implementation of the current study, the designs of these tasks were not consistent with each other. For example, for one of the tasks, the students had to learn how to write a book report, while in another task, they had to write a business letter, which requires a completely different set of skills. Also, it may be wrong to assume that the students can use the feedback they received during the CCN1003 course in their next academic course as they may register for different types of courses which are not related to each other. Thus, students may find it difficult to use the feedback they received in the future.

Table 3.2

The assessment tasks in the Chinese academic writing course.

Task	Task name	Description	Percentage of final grade*	Submission
1	Critiques of newspaper editorial	Evaluate the viewpoints of a newspaper editorial about a socio-political issue. (individual-based)	15%	Week 6
2	Personal statement	Introduce yourself and explain why you deserve a place on the course you have applied to the university. (individual-based)	15%	Week 10
3	End-of-term test (Business letter)	Write a letter in response to a business situation. (individual-based)	30%	Week 13
4	Book Report	Present a book review. (group-based)	30%	Week 6-10, one group each week
5	Participation	Participate in tutorial discussions. (individual-based)	10%	Whole semester

*Note: The percentages of the tasks contribute to the final grade. This study only collects data representing students' performance (i.e., teacher-rated scores) in Task 1 to Task 3 after they have received and given feedback during two peer review exercises. Task 4 is not included, as it is a group-based project involving a book review and the effects of this on individual students' performance is too difficult to separate for analysis. Task 5 is also not included, as it is assessed by the teacher's observations, without quantifying students' performance.

This study took place in an L1 setting (Chinese students' learning of Chinese academic writing). In total, 124 students agreed to participate in the study (control group: 24; receive-first group: 50; give-first group: 50). The students were Cantonese speakers, but they were required to write essays in Putonghua in their Chinese academic writing tasks. Cantonese is often considered as a dialect in China, whereas Putonghua is an official language. They share similar characters despite the pronunciations are different.

All participants in this study had attended the Hong Kong Diploma of Secondary Education (HKDSE) examination. Based on their academic performance in the exam, they were awarded with a level for each subject in the HKDSE; these levels were then converted to scores (Table 3.3). The HKDSE score was the total score calculated by the summation of the student's best five subjects (including Chinese language and English language). For example, if students obtained Level 5* for each subject in the HKDSE, the score for their best five subjects is 30. As part of the college's minimum entry requirements, students needed to obtain at least 12 points to enrol in the AD programmes.

Table 3.3

The HKDSE level-to-score scale

Level	Score
5**	7
5*	6
5	5
4	4
3	3
2	2
1	1
Unclassified	0

Two participant recruitment exercises were used in this study. First, students who were registered on the four Chinese Communication classes I taught in the first semester of the 2017-18 academic year were invited to participate in the treatment groups of the quasi-experiment in order to experience two peer review exercises during the semester. Two classes received the peer feedback condition of receive-then-give (i.e., students first received feedback evaluating their work and then, in the next peer review exercise, they gave feedback on similar work prepared by their fellow students). The other two classes received the give-then-receive condition (i.e., students first gave feedback to evaluate the work prepared by their fellow students and then received feedback evaluating their own work). These treatment groups were called the receive-first group and the give-first group, respectively.

Students taking the same course in the subsequent semester (the second semester of the 2017-18 academic year) were also invited to participate in this study and formed the control group of the quasi-experiment. Using the control group as a comparison group enabled the quasi-experiment to isolate the effects of the independent variables and look at the impact of peer review on task performance. Although the cohort was different, they closely resembled the participants in the treatment groups as they were taught by the same teacher and were registered on the same course. The task performance of this no feedback condition group was then compared with that of both treatment groups to determine whether any effect of peer review had occurred. Hence, five classes, consisting of 124 participants, took part in the quasi-experiment and the surveys that were held during the semester. Another recruitment exercise was conducted for the interviews, the purpose of which was to invite students to share their perceptions of their experience of the peer feedback process; thus, only students in the treatment groups were invited to participate in this stage of the study. To enable students to consider whether or not they wanted to participate, an email was sent to them about five weeks before the interviews took place (i.e., Week 13) stating the purpose and process of the interviews, their right to refuse to participate, and other relevant information (Appendix F).

At the end of the semester, another participant recruitment exercise was conducted for the semistructured interviews. Students attending the interviews were invited to share their perceptions of peer review, indicating to what extent, on the basis of their experience, their learning has been developed as a result of engaging in the feedback giving and receiving process in peer review. A total of eight participants agreed to take part in the interviews, four from the BUS course and four from the BC course. Other details of the participants' backgrounds are summarized in Table 3.4.

Table 3.4

Interviewees' profiles (N=8)

Student name (Pseudonym)	HKDSE scores	Programme	Level*	Year	Role performed in the peer review exercises	
					First	Second
Joyce	17	BUS	5**	2	Receivers	Givers
Long	16	BC	5	2	Givers	Receivers
Ali	15	BC	4	1	Reviewer	Receivers
Tom	15	BUS	3	2	Receivers	Givers
Ling	13	BUS	3	2	Receivers	Givers
Jacky	14	BUS	1	2	Receivers	Givers
Lala	14	BC	5	1	Givers	Receivers
Ellen	14	BC	3	1	Givers	Receivers

Note: The levels given are those the students obtained for writing a paper for the Chinese language subject in the HKDSE.

Implementing peer review exercises in the regular AD course

Following on from the overview of the research setting provided in the previous section, this subsection reports how the course currently operates. That is, the major teaching and research activities in the Chinese academic writing course taken by all participants involved in the study is discussed. It details the context in which the peer review exercises were introduced.

Teaching activities: preliminary guidance, in-class demonstration and practice

The term *teaching activities* refers to the regular classroom activities that are supported by explicit instruction, which includes three major aspects: preliminary guidance, in-class demonstration and practice, and end-of-term feedback. Table 3.5 lists the regular teaching activities of the studied course that would be held even in the absence of the current research study.

Usually, preliminary guidance is provided to students during the first week of the semester through the provision of assessment materials, including a teaching plan, assignment guidelines, and task rubrics. As their teacher, I explain all these materials and answer all relevant questions in the class. The next step is in-class demonstration: I explain the academic writing concepts by connecting the students to information they are familiar with and help the students to identify and analyse arguments on current issues using local newspaper editorials. Finally, follow-up practices take place during tutorials, providing opportunities for the students to demonstrate and practise the knowledge and skills they have acquired.

Students are also given access to good-quality samples of each task uploaded onto the college's MOODLE, an online learning management system. I go through these samples with the students and summarize the key writing principles taught during the class in order to consolidate students' understanding of the writing principles they have learned. In short, during this instructional process, I dominate the classroom and rarely invite students to participate. At Week 6, students submit their assignments. The assignments are marked and returned to students with marks and a written commentary during Week 9.

Table 3.5

The Teaching Plan of the Course CCN1003.

Week	L/T	Activities	Remarks
1	L	**Preliminary guidance I**	Guidelines for all assessment tasks are distributed to the class. The teacher also gives an oral explanation.
	T	**Preliminary guidance II**	The students learn to use software (e.g., Moodle, Turnitin) for academic writing and explore online resources.
2	L	Topic 1a*	The students learn to identify and analyse arguments.
	T	Exercises	The students complete exercises related to the use of topic sentences.
3	L	Topic 1b	The students learn to develop ideas and organize information.
	T	Exercises	The class completes exercises related to cohesion and coherence.
4	L	**Discussion of Task 1 samples**	The class learns how to evaluate the ways in which ideas are presented in samples of Task 1.*
		Topic 2a	The students learn the correct forms of Chinese characters.
	T	Topic 2b	The students complete exercises regarding the correct forms of Chinese characters.

5	L	Topic 3	The class learns about Standard Chinese characters.[1]
	T	Presentation	Presentation of book review (Task 4).
6	L	Topic 4a **Task 1 submission**	The students learn basic grammar rules and how to identify common mistakes. Task 1 submission.
	T	Presentation	Presentation of book review (Task 4).
7	L	Topic 4b	The class learns complex Chinese sentence structures and completes Moodle exercises.
	T	Presentation	Presentation of book review (Task 4).
8	L	**Discussion of Task 2 samples**	The class evaluates how ideas are presented in samples of Task 2.*
	T	Presentation	Presentation of book review (Task 4).
9	L	Topic 5 Viewing (Task 1)	The students learn the common forms of errors in academic writing both globally (development of argument) and locally (grammar rules). Task 1 is returned to students for them to read the teacher feedback. The teacher answers any questions.
	T	Presentation	Presentation of book review (Task 4).
10	L	Topic 6	The class discusses why context matters in academic writing.
	T	Presentation	Presentation of book review (Task 4).
11	L	Topic 7a	The students learn how to write complaint letters and how to reply to complaint letters in a business context.
	T	Presentation	Presentation of book review (Task 4).
12	L	**Discussion of Task 3 samples** **Task 2 submission**	The students evaluate how ideas are presented in samples of Task 3.*
	T	Revision of Topic 6 to 7ab	The class learns how to write job application letters in a business context. Task 2 submission.
13	L	**Viewing (Task 2)**	Task 2 is returned to students for them to read the teacher feedback. The teacher answers any questions. Task 3 submission.
	T	Final revision	Summary of the course and Task 3 submission.[2]
18	N/A	**Viewing (Task 3)**	Task 3 is returned to the students for them to read the teacher feedback. The teacher answers any questions.
20	N/A	Release of final results	Release of marks and grades. Graded assignments are returned to the students.

*Notes:

a. The table lists all regular teaching activities of the studied course in the lectures (L) and tutorials (T) that would be held even in the absence of the current research study. This course covers seven topics. It takes one or two weeks for the teacher to complete each topic.
b. Samples are prepared by the students in the previous semester.
c. The activities in the teaching plan were suggested by the whole course team (all teachers teaching the course) and take place regardless of this study.

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[1] There are two different ways of writing Chinese characters: the traditional and the simplified writing systems. The former is currently used in cities in Southeast Asia, such as Hong Kong, Singapore; the latter is more popular in the Mainland China.

[2] Task 3 is the end-of-term test, which is held on the Saturday immediately after the end of the semester.

Research activities

The research activities in the current study included five steps (Table 3.6); details of these steps are discussed in sections 3.4 to 3.6. The following description provides an overview of each step, which will give readers a general picture of how peer reviews were incorporated into the course in the current study.

Table 3.6

The teaching and research activities for the treatment (receive-first and give-first) and control groups in this study.

Step	Week	Receive-first	Give-first	Control
1	1	Preliminary guidance		
		Informed consent		
		Prestudy survey		
	5	Discussion of Task 1 samples		
	6	Submission of Task 1		
2.	8	Training		
		Discussion of Task 2 samples		
3	9	Receive feedback	Give feedback	
		Viewing (Task 1)		
4	12	Submission of Task 2		
		Discussion of Task 3 samples		
		Give feedback	Receive feedback	
		Viewing (Task 2)		
5.	13	Poststudy survey		
		Submission of Task 3 Invitation emails for poststudy interviews.		
	18	Viewing (Task 3)		
		Interviews		
	20	Release of marks and grades. Return of assignments with grades		

Note:

1. The white cells indicate the normal teaching activities in CCN1003; the grey cells are research activities in this study
2. The semester lasted for 13 weeks. Week 14 onwards was already outside teaching weeks.

Step 1: Seeking informed consent and conducting the prestudy survey (Week 1)

The first research activity started at the beginning of the semester. Once ethical approval had been obtained, a consent form (Appendix A) describing the participants' right to know the nature of the study and to withdraw from the study, along with information regarding the potential benefits and consequences of the study, was distributed to all participating classes. I explained every item in the form and addressed any questions raised by the students to ensure that the information provided was clear, allowing the students to make informed decisions. Two copies of the form were prepared. Students who agreed to participate had to return one copy of the signed form and keep the other copy as a reference for themselves. The signed forms were kept in a locked office to protect participants from unnecessary exposure (Tracy, 2010). Students who agreed to participate in the study were invited to complete a paper-based prestudy questionnaire before the study took place in order to indicate their background characteristics and their perceptions of peer reviews.

Step 2: Training on giving and receiving feedback (Week 8)

In this study, two types of training were offered. The first was a normal teaching activity: high-quality samples of Task 1, Task 2, and Task 3 prepared by students in the previous semester were distributed to students during Week 5, Week 8, and Week 12, respectively. Students in all the groups attended this training.

The other type of training was a research activity for students in the treatment groups. This training was held during Week 8, after the submission of Task 1. The purpose of the training was to illustrate the assessment criteria to the students before they embarked on their own assignment tasks. Two samples (one for Task 2 and the other for Task 3) of average quality were provided for students to discuss during Week 8 (Appendix E). Guidance questions were listed in the margins of the samples to assist students in reviewing the work by giving feedback and in conducting revision by receiving feedback. Only students in the treatment groups attended this training.

Step 3: Learning through giving and receiving feedback (Week 9)

Students in the two classes in the treatment groups were assigned to the receive-then-give condition (receive-first group) and the give-then-receive condition (give-first group). In Week 9, the students in the give-first group worked in pairs to discuss Task 1 assignments prepared by students in the receive-first group and to think about where the papers met the assessment criteria and where they did not, and why they did or did not meet the criteria. The students were required to write comments on a feedback form. Then, I collected the completed feedback forms and distributed the students' marked assignments with teacher feedback (no marks were included). In the same week, the receive-first group received both peer feedback (given by the give-first group) and teacher feedback evaluating Task 1. They were allowed to verbally discuss with their fellow students in the group (i.e., givers to givers, receivers to receivers, non-givers to non-receivers) whether they would like feedback from them. It was expected that these social interactions could activate and enhance the cognitive thinking that is essential for students to reflect on their academic writing skills and knowledge. Only the treatment groups attended this activity.

Step 4: Swapped roles (Week 12)

This step was the same as the previous one, although the two condition groups swapped roles: That is, the receive-first group reviewed and gave feedback on Task 2 work prepared by the give-first group and then viewed the marked Task 2 assignments with teacher feedback; the give-first students, on the other hand, received both teacher and peer feedback about their Task 2 work. Again, only the treatment groups engaged in this activity.

Step 5: Poststudy surveys and interviews (Week 13 and Week 18)

Poststudy surveys on students' perceptions of peer reviews after giving and receiving peer feedback were conducted during Week 13, before the submission of Task 3. In the same week, invitation emails were sent to all participants for the poststudy interviews to be conducted during Week 18, at which time the students would also be able to view the marked Task 3. This final step concluded the data collection procedure.

In brief, this section reported (a) the priority, implementation, and integration of the three components of the current study, together with a brief description of how these components were incorporated into the course examined in this study, and (b) the background of the study, including information regarding the college, course, and participants. In the following sections, more details of each component are reported, including the major stages involved in designing each component, the potential benefits and drawbacks of the data collection instrument, the materials used and their development, the analysis methods used, and, finally, the validity and reliability of the data collected.

3.4. Quasi-experiment

The experiment constituted the major component of this study and was given a heavier weighting than the other two components. It sought to isolate the causal impact of peer feedback conditions on task performance within the semester through a comparison of controlled conditions. However, it was recognized that limitations resulting from the context of this small-scale research (such as the small number of classes available for study) meant a fully causal interpretation of any group differences was not possible. The experiment involved 120 participants, including four classes from the treatment groups and one class from the control group taking the CCN1003 course.

A quasi-experiment design was adopted to empirically measure the effect of peer reviews on task performance in a nonrandomized sample within a naturalistic classroom setting. Such a design can help to identify general trends from the results within a community since participants' reactions to an intervention in real life are more likely to be genuine. It may also be more feasible compared with a true experimental design, which is sometimes impractical or impossible, particularly for research conducted in natural settings. For example, the target population (i.e., AD students)[3] in this study was too big and sample randomization was almost impossible with the resources available.

Considering that nonrandomized sampling may lead to nonequivalent groups and the results formulated cannot be generalized to a larger population, the data collected from the qualitative interviews were used to complement and triangulate the results obtained from the experimental manipulation. This helped to improve the validity of the overall results since more than one method was used to gather data in order to overcome the weakness caused by using a single method (Johnson & Onwuegbuzie, 2004) and one set of data. Also, an analysis of the data of the programme subsamples (BUS and BC) was conducted. The BUS subsample had the advantage of comparability (all the students came from the same programme). The BC subsample offered a valid comparison between the two treatment groups, but by necessity this involved a comparison with the control group that consisted of BUS students only. The analysis of these subsamples highlighted different dimensions of the effects of peer reviews and cross-validated the findings in the full sample.

Designing a quasi-experiment

In this study, the design of the quasi-experiment involved four major stages: (a) setting the stage for the experiment, (b) constructing the independent variables, (c) measuring the dependent variable, and (d) planning the follow-up interviews. This section explains how the first three stages were conducted in the current study. The last stage is discussed in Section 3.6.

[3] According to government statistics, there were approximately 66,800 students undertaking AD education in the 2017-18 academic year (Concourse for Self-Financing PostSecondary Education, September 2018).

Setting the stage

The training offered in this study included two major stages. As shown in Table 3.7, the first stage started after the preliminary guidance regarding the task assessment (Week 1) and a discussion of the Task 1 sample (Week 5). The teacher demonstrated ways to use feedback to edit the title and the first paragraph of the sample and to evaluate the second paragraph of the sample by giving feedback based on the task criteria (Step 1). After the demonstration, the students practised the knowledge and skills they had learned by working in pairs. They had to discuss the remaining paragraphs and give comments on the overall structure of the sample using a feedback form (Appendix C, see Section 3.4.2). A few comments were provided by the teacher in evaluating certain parts of the sample. The students needed to follow these comments and revise the respective aspects on the basis of the knowledge and skills they had learned. The teacher then showed the students how she would revise the task, which gave the students a reference point with which to judge the quality of their own revisions (Appendix E). Step 2 was thereby completed.

Students then engaged in the first peer review exercise, either by giving feedback on the version of Task 1 prepared by others or by receiving peer feedback evaluating the version of Task 1 they themselves had prepared. Although this was not part of the training, this exercise allowed students to become more experienced by either giving or receiving feedback before they participated in the second peer review exercise during Week 12.

Constructing independent variables

The feedback conditions and the baseline data are independent variables in this quasi-experiment, as follows.

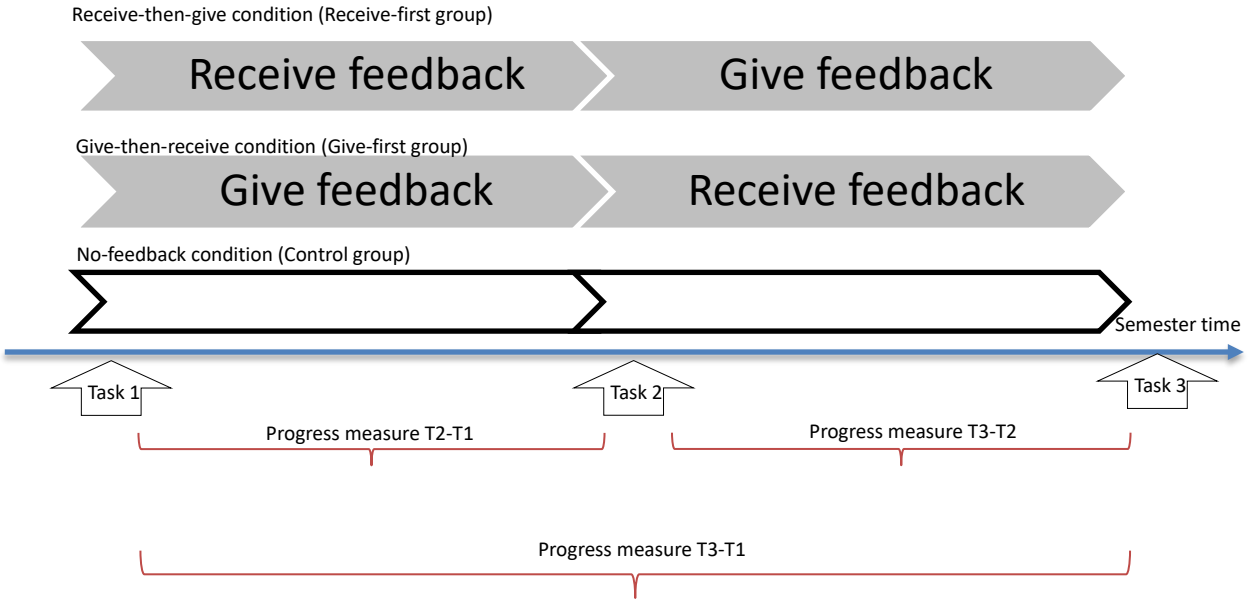
(1) Feedback conditions

Feedback conditions refer to the particular peer feedback experience that students engaged within a semester. The three conditions are: give-then-receive (the give-first group), receive-then-give (the receive-first group), and no feedback (the control group).

Figure 3.2 conceptualizes the feedback conditions: receive-then-give, give-then-receive and no-feedback. The change in task performance (measured by the change in task scores) in different conditions is investigated in different progress measures from Task 1 to Task 2 (T2-T1), Task 2 to Task 3 (T3-T2) and Task 1 to Task 3 (T3-T1).

Figure 3.2

Conceptualization of the Different Feedback Conditions and the Three Progress Measures (T2-T1, T3-T2, and T1-T3)



(2) Baseline differences

Ideally, all participants should be in the same psychological state prior to the manipulation of an independent variable. In real life, however, this is rarely the case. In this study, three types of baseline data represented the students' general competency (i.e., their HKDSE scores, a score obtained in a public examination for secondary school graduates in Hong Kong), their academic writing ability (i.e., their Task 1 scores, the teacher-rated scores obtained for the first task), and their motivation to participate in peer learning (i.e., their motivation scores, the self-reported scores obtained from the prestudy surveys on preferences regarding peer learning), respectively. These scores were collected and incorporated into the statistical analysis in the quasi-experiment. They were held constant

in the analysis of the quasi-experiment to minimize confounding bias. Details of this are reported in Section 4.2 of Chapter 4.

Measuring the Dependent Variable

The dependent variable of the quasi-experiment referred to the students' learning progress under the effects of feedback conditions at a particular period of time within the semester. It was measured by the difference in the scores of tasks performed consecutively in this course.

As shown in the following table, the progress of the students in each treatment group was assessed three times. The first progress assessment was used to determine the differences between Task 1 and Task 2 scores (T2-T1). The change in score in this progress assessment represented the immediate task performance after the two treatment groups had experienced a single element of peer review (i.e., receiving or giving peer feedback). Similarly, the second and third progress assessments of the two treatment groups were measured by the differences between the Task 2 and Task 3 scores and the Task 1 and Task 3 scores, respectively. Changes in, rather than levels of, scores were compared across the different groups of students to isolate the effects of condition on learning *progress*. This formulation further helped to remove the influence of pre-existing differences in achievement between groups that might become conflated with the impact of the peer review tasks.

Table 3.7

The feedback condition in different learning progresses

	Receive-first			Give-first		
Progress of learning	First	Second	Final	First	Second	Final
Feedback condition	Receiving feedback	Giving feedback	Receive and give feedback	Giving feedback	Receiving feedback	First give and then receive feedback
Differences of score	Task 2-Task 1	Task 3-Task 2	Task 3-Task 1	Task 2-Task 1	Task 3-Task 2	Task 3-Task 1

The tasks were marked according the task rubric. About one third of the marking was moderated by another teacher to ensure the marks justified the performance. These scores were considered to be good representations of actual changes in performance in regard to how the students were affected by the feedback conditions. Nonetheless, it is important to note that the marks may not have comprehensively measured the changes in the students' performance. There may have been some unobservable changes, such as perceptions regarding the usefulness of peer reviews. This is an area the author sought to explore in the second and third components (surveys and interviews) of the study.

Materials

Three types of materials were used in the quasi-experiment: task rubric, feedback form, and sample essays for training. The task rubric was the document indicating the criteria across all components of the assessment task which was distributed to the students at the beginning of the semester (Appendix D). It was developed by the members of the team teaching the CCN1003 course, and its validity and reliability were enhanced by the college's practice (see Section 3.4.5).

A feedback form (Appendix C) and sample essays were provided to the treatment groups to support the reviewing process (Appendix E). The design of the feedback form was adapted from Min's (2005) four-step procedure which supported minimal marking. All the students needed to do was to put a few ticks or jot down a few points on the form, without having to write lengthy explanations or solutions.

Analysis methods

There were two types of data involved in the quasi-experiment: baseline differences and task scores.

In this study, baseline differences across groups were presented at two levels. The first level was observable differences. Students' year of study, programmes studied, and previous experience of peer reviews were outlined. In the second level, baseline data (HKDSE scores, Task 1 scores, and motivation scores) were collected for further comparison across groups. Ideally, no systematic differences between the groups should be

observed. The descriptive statistics were first presented in the form of a table to see if any patterns could be identified among the group means. ANOVA models were then performed by comparing the means of the groups' baseline data (Task 1 scores, motivation scores, and HKDSE scores). On the basis of the results, analysis strategies were suggested, the purpose of which was to enhance the validity of the findings.

Following these analysis strategies, task scores were collected and inputted to an Excel file and cleaned, and the mean changes in the task scores of the groups at the three progress assessment points were calculated. The results thus giving readers the general pattern that emerged from the data. The cleaned data were then inputted into SPSS. ANOVA models specific to each progress point were conducted to compare the means between peer feedback conditions and task score controlling or without controlling for baseline data. The comparison was first performed on the full sample; then, to validate the findings, it was performed again on the BUS and BC subsamples to check whether the two results replicated each other.

Validity and reliability

This section discusses the strategies used to enhance the validity and reliability of the task scores and baseline data.

Controlling the baseline differences

To explore the potential for confounding, tests of group equivalence were performed on the baseline data. The results were considered to be useful in providing information about the extent to which posttreatment differences were likely to reflect the effect of the experimental treatment. Baseline measures were also used as covariates in the estimation models in order to isolate the effect on the dependent variable.

Review of task rubrics

The task rubrics were developed by the CCN1003 course team and reviewed at a team meeting (for teachers who teach the same course) that was held before the start of the semester for every cohort to discuss whether the rubrics assessed what they were supposed to assess. Through the discussion at the meeting, the validity of the measurement was enhanced.

Moderation of marking

The reliability of the rubrics was checked by moderators to review whether teachers' marking was in accordance with the task rubrics. The comments made by the moderators to the team improved the reliability of the marking.

Ensuring the quality of the feedback process

With respect to the peer feedback process, double-blinded reviewing was adopted. Feedback givers were reminded to only write their student numbers, and not their names, on their feedback forms, while every article was assigned with an essay ID instead of using real names to avoid friendship marking. The purpose of using a feedback form was to guide students to complete the whole reviewing process and hence improve the reliability of the activities. The form was used in a simple pilot peer review exercise with 20 students taking a comparable language course at the same college before the current study took place. The students' responses showed that some instructions needed to be revised or rephrased because they proved to be ambiguous in their wording as well as meaning. Additional help, such as verbal explanation in Cantonese, was provided, which consequently improved the validity of the instructions in the form (see Section 3.7).

3.5. Surveys

Two surveys, a prestudy survey and a poststudy survey, were conducted in this study. The first survey was conducted for all experimental groups; the purpose of this survey was to identify the groups' baseline data by collecting students' HKDSE scores and motivation scores for use as covariates when estimating the impact of peer review conditions on task performance (N=124). The second survey was conducted for the treatment groups only after the experimental manipulation (N=100) to investigate to what extent the students were satisfied with the peer review experience in the current study.

Questionnaire surveys enable researchers to reach a large number of people and obtain information in a relatively cost-effective way. The collected data are often quantified and easy to analyse, and they can provide useful insights into the topic under study. Since the survey in this study was a self-reported questionnaire, there were several issues which may have affected the validity of the data collected. Further discussion of these issues and ways to address them can be found in Section 3.5.5.

Designing the surveys

Three major aspects were considered in designing the surveys for this study, including what data was needed for the study, what the question items should be designed to address the needs, and the technical issues in carrying out the surveys.

In this study, factual and perception data were needed to show the students' baseline differences across groups and their perceptions of the usefulness of peer review for learning respectively. To address such a need for the study, four main types of survey questions were used which include fill-in-the-blank, Likert type questions, select type question, and open-ended question.

1. Fill-in-the-blank: These questions were used to collect factual data, such as HKDSE scores; the students had to write down their scores in specific places provided in the questionnaire. These data were used as covariates in the analysis of the quasi-experiment.

2. Likert type: Students were asked to rate the extent to which they agreed or disagreed with certain statements regarding their perceptions of peer reviews on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). These data were used to complement the results of the interviews.
3. Select type: These questions were used for assessing students' overall perceptions. The students answered the questions by selecting the most suitable option provided in the questionnaire. These data collected in the prestudy and poststudy surveys were compared to provide a general picture of students' perceptions of peer review. They were also used to complement the results of the interviews.
4. Open ended: These questions were used to invite opinions on other aspects that had not been mentioned. No pre-defined answers were given, so the students were free to write what they wanted. These data were used to complement the whole discussion of the results.

In considering which type of survey should be presented to the participants in this study, several factors were considered. At first glance, an online survey could have been administered to many individuals simultaneously and might have been the best choice for this study, which lacked funding and manpower support. However, there are many potential problems associated with using mobile phones to complete online surveys: For example, participants may forget to bring their phones; their phones may be out of power; or they may not bother to login. As such problems may have affected the response rate, a paper-based questionnaire was used in the current study so that the data could be analysed using SPSS.

Materials (prestudy and poststudy surveys)

Prestudy and poststudy questionnaires were used in this study. The prestudy survey included four parts, with each part inviting the students to share different information related to peer review. Part 1 dealt with the students' relevant experience, Part 2 and Part 3 examined the students' attitudes, and Part 4 was concerned with their overall perceptions of the usefulness of peer reviews.

Table 3.8

Details of the prestudy and post study questionnaires

	Part	Description	Question types	Number of items	Example
Prestudy	1	Previous experience	Selection	1	Have you experienced peer review before?
	2	HKDSE scores	Fill-in-the-blank	1	What was the total scores of your best five subjects in the HKDSE?
	3	Motivation scores	Likert*	3	I like opinions from peers because I can get more ideas.
	4	Overall perceptions	Selection	3	I expect peer feedback will be ___ to my learning.
Poststudy	1	Overall perceptions	Selection	3	Peer feedback was ___ in enhancing my learning.
	2	Perceptions on individual element of peer review	Likert	12	I could tell the strengths of my peers' work after reading it.
	3	Other comments	Open-end	1	Any things you would like to mention about your experience in peer review?

Notes:

a. Students are invited to indicate their agreeability on these statement on a 5-Likerale Likert scale (ranging from 1 for strongly disagree to 5 for strongly agree).

b. Students in all groups (both treatment and control) are invited to complete the prestudy survey, while only treatment groups are invited to complete the poststudy survey.

Parts 4 and 5 included two sets of similar questions, which the students answered at the beginning and the end of the semester, respectively. These questions concerned students' general perceptions of peer reviews, and they were adapted from a survey conducted by Mulder, Pearce and Baik (2014). The reason for using their survey was that it has been widely tested in four different disciplines in an Australian university. The results of the Australian study could be compared with the results of this study to understand students' perceptions of peer reviews in different contexts.

Part 6 dealt with perceptions of individual elements of peer reviews. Again, the question items were developed from Tseng and Tsai's (2010) study. Students were asked to indicate their perceptions of giving or receiving feedback by completing 12 Likert-scale questions in the poststudy survey. The first six questions included statements describing students' experience of giving feedback, while the remaining questions were about receiving feedback. Students were asked to indicate the degree to which they agreed with

statements such as “I could tell the strengths of my peers’ work after reading it” on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). The data were then compared according to their groups to see whether perceptions differed depending on their peer feedback experiences in this study.

The poststudy questionnaire had three parts: overall perceptions, perceptions of individual elements of peer reviews, and other comments. Question items in the overall perceptions section (Part 5) were similar to those in the prestudy questionnaire. In Part 6, 12 question items were used to measure the students’ perceptions of individual elements (either giving or receiving feedback), and finally, an open-ended question (Part 7) was included at the end of the poststudy survey for the students to provide longer responses about their experience of peer reviews.

Analysis methods

The data analysis procedure in the survey component of this study was similar to that of the quasi-experiment. First, factual data collected which showed the students’ baseline differences across groups were presented (Table 4.1). The mean scores on HKDSE, motivation, and Task 1 across groups were also displayed, giving readers a general picture of group equivalence. The baseline data were also used to control for students’ differences in analysing the effects of peer feedback condition on task performance.

Parts 4 and 5 were concerned with the change in students’ perceptions of general aspects of peer review before and after the study. To show the changes, grouped bar charts were used to present the categorical data of the responses of students in different groups in the pre- and poststudy questionnaires (See Section 4.4). Part 6 further investigated whether the perceptions of giving or receiving peer feedback were different between the two treatment groups by comparing their mean scores (Table 4.7). The results were triangulated with the results from the interviews about students’ perceptions, thus formulating a deeper understanding of the usefulness of giving and receiving peer feedback through the participants’ own words.

Validity and Reliability

This subsection discusses the data validity and reliability of the baseline information and students' perceptions. Additionally, since the questionnaire survey required students to respond to the question items without researcher interference, several issues concerning the validity of the data are discussed in the later part of this section.

The HKDSE scores formed part of the baseline data indicating students' academic capabilities. These scores were the summative scores of five subjects in the HKDSE examination (see Section 3.3.2) taken at the end of secondary education and prior to admittance onto AD programmes. The design of the examination content, the marking process, and the outcomes are reviewed by the Hong Kong Examinations and Assessment Authority, a government body that renders a wide range of examination and assessment services to cater for the needs of society.

Since surveys are self-reported, there are several issues one needs to be aware of. First, validity could be a concern as survey data relies on participants' honesty. Student respondents may provide responses they think their teacher wants rather than their true feelings in order to avoid disrupting the teacher-student harmony, even though the questionnaire is anonymous. Even if a participant is trying to be honest, it may be possible that the wordings of questions are not understood by students. Also, questions often only allow a limited choice of responses. A survey needs to be carefully designed to ensure that the right response is included among the choices.

Several strategies were adopted in this study to enhance the validity and reliability of the data. First, a message was included in the survey encouraging the students to be honest when they gave their responses. Second, four students were invited to complete the prestudy and poststudy questionnaires in a piloting exercise. They were invited to share their perspectives on the wordings of the question items and revisions were made on the basis of their opinions. Moreover, when the survey formally started in the main study, I explained the questions in Cantonese, the mother tongue of the students, to ensure that they understood the questions.

3.6. Semistructured Interviews

In this study, semistructured interviews were used to explore the effects of peer review from the students' perspectives (N=8). I developed an interview protocol and prepared questions ahead of time as this helped to ensure the competence of the interview process. With those questions, I was able to control the interview conversation while providing some degree of flexibility to allow the interviewees to share their perceptions of peer review.

Designing an interview

Planning the semistructured interviews in the current study includes three stages: preparing the interviews, during the interviews and after the interviews. The following table shows what I plan to do in each of these stages.

Table 3.9

Steps for Designing and Conducting the Semistructured interviews

Stage	Item	Choice(s)/Actions made in this study
1. Preparing for the interviews	Preparing the interview protocol	Think explicitly what topics are covered and what challenges might be encountered before the conversation.
	Selection of interview location and time	Conduct the interviews in a classroom, an environment in which the teacher and students are familiar with. Food and drinks prepared with an attempt to build rapports with. In addition, it is held one month after the completion of the semester
	Selection of participants	Purposeful sampling was used.
2. During the interviews	Interviewers should be non-judgemental and sensitive when they invite people to share their perceptions	● Draft the interview questions and sent them to supervisors for comments; ● Practice the skills by doing pilot interviews.
3. After the interviews	Writing extensive field notes to ascertain their emotional wellbeing after the interviews.	● Organise the field notes and report to supervisors if commit any problems.

Preparing for the interview

An interview protocol which included tentative questions were developed in the pilot study, which enabled me to think explicitly about what were needed to be covered. Then, these questions were revised on the basis of my reflections on the interviewees' responses. These revised questions were further assessed with the voluntary support of several other students who did not take the selected course. Those students provided their views on the wording of each question, and on the basis of their ideas, I revised the questions again. The revised questions were sent to the supervisors of this dissertation for a second academic opinion and were finalized on the basis of their comments.

Considering that the College classroom was the place that both my students and I would be familiar with, I decided to use it for interviews in this study. The interviewer put a note "Interviews in progress" on the door of the classroom to avoid distraction. To explore the feelings and experiences of the participants in a gentle and gradual manner, food and drinks were provided during the interviews as a way of relaxing the students. The interviews were held about one month after the completion of the semester (at Week 18). That particular time frame was selected because the students were expected to come back to the college to collect their marked assignments (not with grades), a usual practice at the college. Meanwhile, I was able to complete all the marking and therefore could return students' research work to them at that time. Thus, this time frame for the interviews seemed ideal for both my students and myself. Each interview lasted for about one hour and took the form of interactive conversations in which the participants described and reflected on the feedback process they had experienced and then responded to the core and probing questions.

The last decision related to the selection of participants. As the purpose of the interviews was to invite participants to share their perceptions of receiving and giving feedback, only those who had engaged in both elements were invited. An invitation was sent to all 119 students who had participated in the peer review process. One week after the email was sent, eight participants had responded to the invitation and I decided to interview them all to explore their experiences. Details of the participants' backgrounds are reported in Section 3.4.

During the interview

Having arranged to meet with each student at a mutually agreeable time, date, and location, a total of eight one-on-one semistructured interviews were conducted. In the introduction, which took about 10 min or a little less, I explained the purpose of the interview and described what would happen to the data and interpretations of the data. With the participants' consent, the interviews were recorded using a digital audio device. Each interview lasted approximately one hour.

After the interview

Interviewers are advised to audio-record interviews, rather than jot down participants' words in a notebook, so that they can easily focus on the conversation (Longhurst, 2010). Longhurst (2010) suggested that interviewers should listen to the audio recordings as soon as possible after conducting their interviews while they are still fresh in their mind, as this will make transcription easier. Following this line of thinking, I transcribed each conversation into written Chinese almost immediately after conducting the interview. The following section provides more details of how the data analysis was conducted.

Materials (interview protocol)

An interview protocol with opening and ending scripts and predetermined questions was prepared to support the interviews (Appendix G). These questions were divided into eight parts. A brief description of each part is provided in Table 3.10.

Table 3.10

Major Parts of the Interview Protocol

Part	Description
1. Introduction	Interviewer read an introductory script explaining the details (e.g., purpose) and arrangements (e.g., interview will be tape-recorded; data will be kept confidential; who to contact after the interview) of the interview. Interviewee invited to sign the consent form if they agreed with the arrangements.
2. Perceptions of peer review based on previous experience	Student invited to share their understanding of peer review based on their relevant assessment experience of peer review.
3. Perceptions of giving feedback (benefits and problems)	Student invited to share their experience of giving peer feedback, such as the benefits they perceived or the problems they encountered.
4. Perceptions of receiving feedback (benefits and problems)	Student invited to share their experience of receiving peer feedback, such as the benefits they perceived or the problems they encountered.
5. Usefulness of peer review in terms of learning	Student asked to evaluate the usefulness of giving or receiving peer feedback in terms of their learning.
6. Transfer of learning	Student asked to share an example, if any, of how they could transfer what they had learnt to a subsequent task.
7. Comparison between previous and current learning	Student asked to compare their feedback experience in the current study with their previous learning experience related to peer review.
8. Summary	Student provided with a summary of the interview and invited to quickly review the points they had made.

At the beginning of the interviews, the questions were focused on the student's previous experience in order to find out their experience of peer review. Students were invited to recall their memories of their previous peer review experience and explain their understanding of the concept.

Questions about specific aspects of their perceptions of peer review were left to the later stages of the interview as it was expected that the interviewees would share their perspectives more freely by the midpoint of the interview when they were becoming familiar with the environment (Longhurst, 2010). In this study, these specific aspects concerned how the students perceived receiving and giving peer feedback, and specific probes were developed to focus on the participants' accounts of their feedback experiences. Some examples of the questions are presented in Table 3.11.

Table 3.11

Examples of Interview Questions Regarding Previous Experience of Peer Review

Topic	Tentative question	Probing question 1	Probing question 2
Previous experience	On the basis of your previous experience, what is peer review?	From your experience, can you describe the typical procedure of peer review?	Are there any critical elements, apart from students, in the peer review process?
Experience of giving feedback	What do you do/consider when you perform a peer review?	Which parts of reviewing do you enjoy most/least?	Any other concerns?
Experience of receiving feedback	Has the feedback you have received been useful for your learning?	What are the criteria for assessing whether feedback has been useful?	What would you normally do if you think the feedback is not useful?

Analysis methods

Thematic analysis is considered as a foundational method for qualitative analysis that researchers should learn (Braun & Clarke, 2006); it provides flexibility for researchers when searching for appropriate themes that fit into the description of a phenomenon. In this study, the data collected were first categorized as either previous experience or current experience, which was an easy categorization as it followed the sequence of the interview questions.

This study drew upon Braun and Clarke's (2006) work detailing a six-phase model of thematic analysis. Their model includes the following phases: (1) being familiar with the data collected; (2) generating initial codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; and (6) producing reports. As a sequential mixed-method study was adopted in this study, the analysis of the semistructured interviews data was combined with the survey data. These phases are outlined in Table 3.12 below, followed by a description of each step. The first phase also included the steps I took to become familiar with the collected data, which are reported in the previous section. The remaining details are described below.

Table 3.12

The Six-Phase Thematic Analysis in This Study

Phase	Method used to analyse interview data in this study
1. Becoming familiar with the data collected	Listen and transcribe each audio clip from verbal Cantonese to written Chinese to prepare for the data interpretation.
2. Generating initial codes	Fit the transcribed data into the following predetermined topics: (1) Effect of individual elements and combined elements of the peer review process on task performance. (2) Students' perceptions of the usefulness of peer review, and the potential factors which may lead to a change in perceptions in this study. Within the same topic, search for consistent phrases, expressions, or ideas that are common.
3. Searching for themes	Check if existing topics make sense. Add or remove topics if necessary.
4. Reviewing themes	Invite fellow classmates on the researcher's doctoral programme to become consultants for this study. Ask them to review the themes to ensure the quality and the effectiveness of the evaluation of the transcripts, assigning a new theme/removing an old theme if necessary.
5. Defining and naming themes	Define and revise the themes on the basis of consultants' suggestions.
6. Producing reports	Themes selected on the basis of the findings of the quantitative and qualitative data to provide a comprehensive understanding of the topic being studied.

Generating initial codes

Once the transcriptions were drafted, each transcript was read and read again. If there was a particular part of a conversation that was richer in details than others, or if some key words or phrases frequently appeared in each script, these were highlighted with a brief note describing the content. The notes were then grouped together and used to cross-reference against the findings of the surveys in order to make greater sense of their meaning.

Initial codes were then formulated on the basis of the initial interpretations from the notes. For example, in the prestudy survey, a majority of students said they were not sure whether they had experienced peer review before. In the interviews, one student, Ali, said that she was not sure about the differences between the concept of peer discussion and peer review. According to Ali, her teacher would normally summarize the key points of a lecture after a peer discussion, while a peer review should be a bottom-up meaning construction process. On the basis of her comments, an initial code "peer review and ordinary discussion" was assigned to the above units of content.

Searching and reviewing for themes

After initial codes are formulated, the next step is to review all the codes again to see if they make sense Patterns and relationships are explored between codes, thinking about how different themes come together to help us understand further the participants' experience. Thus, initial themes are developed.

Defining and naming themes

In this phase, I stepped back from the revised themes and thought more holistically about what critical interpretations had already been made and what they collectively meant for the study's primary aim and guiding research questions. By engaging in an iterative process of reading the transcripts and reflecting upon the findings already generated, I noticed a number of tensions in the data that prompted further exploration.

Producing reports

Finally, the most representative examples of the interview transcripts were selected to illustrate the themes that formed the basis for the main lines of argument in this study. Chapter 4 discusses this final step which presents the main themes related to the research questions.

Trustworthiness

It is generally expected that good qualitative research should cover a topic worthy of exploration (Tracy, 2010), and I believe that the exploration conducted in the current study fulfils this requirement. The major aim of the interviews in this study was to explore the effect of peer review from the students' perspectives, which is of potential relevance to the study's intended audience (e.g., teacher practitioners, college management) and relates to an important need in the development of Hong Kong's economy (see Chapter 1).

Tracy (2010) stated that the sincerity and credibility of data are both important criteria for evaluating the trustworthiness of qualitative research. In the context of the current study, the word "sincerity" refers to the extent to which the study is marked by my honesty as a researcher as regards the operation of the study and "credibility" relates to the rigour with which the research was conducted. a detailed introduction to the research, including its rationale of using peer review and its potential benefits and consequences for the students, was offered to the students at the beginning of the semester and the start of the interviews, both through verbal explanation by the teachers and the provision of written information (i.e., the information sheets on the consent form for the quasi-experiment, interviews, and surveys; see appendix), to ensure they all understood how the study would be conducted.

To enhance the data credibility, the interview questions were also sent to the supervisors of this thesis in advance and revised on the basis of her professional advice. In addition, the questions were piloted in interviews with five second-year AD students enrolled in the CCN1003 course during the semester prior to the main study. Some questions were adjusted on the basis of their comments. Furthermore, clear documentation of the interview protocol and the major research decisions and activities are provided here and in the appendix, forming an audit trail that provides a transparent description of the

research steps taken from the start of the research project to the development and reporting of the findings (Creswell & Miller, 2000, p. 128). Also, a thick description of the focal research site, the selected academic course, and the participants' backgrounds is provided to help readers understand the setting of the current study. With this information, readers will be more likely to understand the setting, thus making the claims or interpretations in the study clear, credible, and convincing (Tracy, 2010). Additionally, to help eliminate researcher bias during the analysis and interpretation of the findings, member checking was conducted, and participants were invited to check the accuracy of the interview transcripts to determine whether their experience or thoughts had been accurately recorded. All of the participants agreed with the interpretation of their thoughts as reported in this thesis. Finally, the interview data were complemented with the survey data, which allowed the analysis to cover different aspects of students' perceptions of peer feedback. This is data triangulation, which can enhance the credibility of the qualitative findings by using one or more research methods or data sources.

3.7. How the pilot informed the main study

The current study was piloted with a small sample (N=50) during the semester prior to the main study (Semester 2 of the 2016-17 academic year). The design of the pilot study was largely the same as the main study, except that in the pilot, the participants were students from two classes of the BUS programme, while in the main study, the participants were students from both the BUS and BC programmes. This section describes the research design details of the pilot study and how the results informed the main study.

In the quasi-experiment, two classes participated in the peer review. One of the classes experienced giving peer feedback on Task 1 assignments (givers), and the other class experienced receiving peer feedback evaluating their own Task 1 assignments (receivers). For ethical reasons, the students' roles in the peer review process were reversed in the subsequent task (Task 2), but the data were not used for analysis. In other words, only the change in performance in one progress measure within the semester was considered (T2 to T1) in the pilot study.

The first peer review exercise began at Week 9, when the givers were asked provide feedback based on the problems they had identified, and the feedback was written in the margins of the assignment. From my observations, the givers quickly became tired of laboriously writing comments. After about 20 min, many students started using symbols, such as question marks or circles, instead of words to indicate a potential problem they found in an essay.

A few students improved their writing performance after they had engaged in peer review. In the poststudy interview, one interviewee stated that she had suggested that the assignment author should review the consistency of the terms she used. One of her comments was "[i]f the term used to refer the same concept varies from paragraph to paragraph, it can be jarring to the readers." When she returned to her own work, she paid attention to this particular area. She said she enjoyed the cognitive challenging process very much and was satisfied with her reviewing experience

With reference to the above problems and suggestions, the main study was revised in two respects. First, a feedback form that supported minimal reviewing was developed to avoid students spending too much effort laboriously writing comments. Details of the feedback form are presented in Section 3.4.2. Second, the findings from only one measure of task performance were too limited as they represented one measure in time for one particular group of students. Therefore, in the main study, the students' experience in the second peer review exercise was also included in the hope that they would gain more experience of engaging in the review process.

3.8. Ethical Considerations

As this study involved human subjects, I carefully considered the questions that might arise in conducting my research.

The core ethical issues associated with research involving human subjects are often related to risk-benefit assessment and informed consent (Helmchen, 2011). As these two aspects may involve all aspects of the research process, I followed the procedural ethics in the ethics review process formulated by the School of Education of the University of Bristol. The procedure required me to explain clearly the purpose and significance of the current research process, the way in which I would minimize harm to my participants, and the way in which I would manage the collected data. My initial step was to prepare an informed consent form containing information describing the participants' basic rights and safety issues in the current study (Appendix A). This form was sent to my supervisors for comments, and the agreed-upon documents were then submitted to the School of Education, which gave its approval for the study.

At roughly the same time, I sought the consent of the course leader, a colleague who was responsible for the overall development of the course in this research study. After her consent was obtained, I sought the College Director's approval to conduct research at the community college. Thus, approval was obtained from both the University of Bristol, to which this dissertation was submitted, and the community college where this study was conducted. Upon receiving approval from both bodies, my next step was to obtain the students' informed consent to participate in the study.

Teacher-student power relations

Power can be interpreted in various ways. It can be viewed as the legitimacy of exercising power based on one's hierarchical role, position and authority; it can also be understood as the ability to control the behaviour of others which involves conflicts and resistance (Wong, 2016). Foucault (1980) pointed out that power did not take place in vacuum; he interpreted power as something that exists in a form of relationship. The teacher-student power relations is one of the examples that needs to be considered carefully in close to practice education research studies.

In the current study, I am a teacher researcher who undertake my study in the community college where I am a staff member. That could create conflicts or resistance during research activities. For example, as a researcher, I knew that an experimental research often includes a control group to isolate the effect of the independent variable in the experiment. The use of control group can also help provide alternative explanations of the experimental results to be ruled out. Such experiment-control designs, however, are considered problematic for social science research that takes place in a naturalistic education setting. Kember (2003) doubted whether it is ethical to use such a design as the effect of the independent variable may affect academic performance. In the case of this study, it would not have been ethical for students from the same programme to have different learning experiences in the same cohort. As pointed out by Kember (2003, p. 91), "[h]ow can students, who have paid their tuition fee, be told that they will receive no teaching because they have been drawn in a control group?"

To address this issue, I invited my students from the subsequent cohort (2017-18, Semester 2) to join the study without engaging in any peer feedback conditions. Their experience was used to assess whether the intervention influenced performance or whether one order of peer review tasks was better than the other. Although this control group may not have been perfect as its students did not take the course concurrently with their fellow students in the same cohort, they were taught by the same teacher and experienced the same teaching activities and hopefully their performance would provide some insight into the experimental manipulation.

In view of this, I defined teaching and research activities in this study to avoid role confusion (Table 3.6). When peer review exercise was carried out at the class, I positioned myself as a researcher who observed how the students behave in the feedback receiving and giving process. Other than that, I was the teacher who delivered direct, structured instruction to students and I tried my best to make my lessons crystal clear.

I understood that a clear definition of role was not enough. I adopted various strategies to minimise any potential difficulty arised from my role. These strategies were adopted when informed consent was sought to make it clear to the students had the right to refuse to participate in my study. Mixed method approach is used to allow for data triangulation which enhances the validity of the study's results and avoid bias with data analysis.

Informed consent

Previous research suggested that teachers' authority is highly valued in East Asian cities (Lee & Kim, 2019), and that includes Hong Kong. The existing learning culture in the Hong Kong higher education system puts a lot of emphasis on obedience to school authority, regulations, and success in examinations (Ho, 2017). Researching my own students' responses to peer assessment as a teacher myself meant I was very likely to enjoy high response rates, but would my students feel coerced into joining the study?

Also, despite the language of criteria-referencing marking being adopted over many years and student-centred learning receiving growing attention in the Hong Kong higher education sector during the past two decades when I have been a teacher in this context, all the assessment tasks and related assessment criteria are still designed and decided by teachers (Carless, 2005). As teachers have the power to design and decide the assessment process, from the students' perspective, there was a danger that they may conform and agree to engage in my study because I was their lecturer. How difficult it would be to refuse an invitation to participate in research conducted by me, the one who determines their grades or gives them access to important resources for learning. Bearing these issues in mind, I was aware that I had to work hard to make sure they were genuinely happy to participate.

First, to enable the students to give their voluntary informed consent, it was important to ensure that they fully understood the research process, particularly the part in which they would be engaged; why they needed to engage; and what data would be collected and how the data would be used. I distributed consent forms to potential participants both at the beginning (before the experimental manipulation was conducted) and the end (before the semistructured interviews were conducted) of the semester. I also explained the objectives and the procedure of the study to the students. They were briefed that to protect their right to confidentiality, their real names would not be shown in the study. Students who agreed to join the study were invited to sign the consent forms, which were kept in a locked drawer to protect their privacy.

Lichtman (2011) stated that the one thing a teacher researcher must make clear to participants is that they have the right to refuse to participate. Hence, I reminded my students that if they were free to choose not to participate in the research at the beginning or to withdraw from the study any time and that their decision would not affect the evaluation of their academic performance.

I understood that just a verbal reminder was not enough, as my student participants were objectively lower in terms of power and status, therefore, I invited a colleague who was not involved in this study was invited to support the data collection procedure. At the time the materials were due for collection, a collection box was provided for the submission of completed forms or questionnaires (blank if they did not want to complete them) from students. I absented myself from the classroom when my colleague collected the questionnaires. The box was kept in my colleague's locker and was not returned to me until Week 17, when all assignment marking had been completed. Some distance was thus created between the teacher-researcher and the student-participants. There was no way for me, the teacher-researcher, to know who had participated in the study before the marking was finished, and hence I was not able to abuse my power in the classroom to coerce students into taking on additional research duties.

Data triangulation

My own enthusiasm for peer review could potentially influence students' perceptions about peer review in this study. Students may avoid sharing anything negative as a result, instead give promising and encouraging comments during the interviews. To minimize the potential bias in data analysis, I was more inclined to choose a mixed-method design which allow for triangulation or elaboration of the findings through the addition of other data collection methods. However, such an approach requires researchers to devote a great deal of time and resources to planning and implementation. That said, mixed-method research is worth pursuing as the integration of different types of datasets and the subsequent results can help researchers formulate a justifiable conclusion (Plano Clark & Ivankova, 2016).

In short, I used various ethical protection strategies to protect better the rights of my research participants. I was also aware that the data collected in this study could be biased due to my identity as a teacher researcher. Therefore, I use mixed methods approach to avoid data analysis.

3.9. Conclusion

This chapter began by clarifying the philosophical position of the present study—postpositivism—which critiques and amends positivism. A mixed-method design consisting of three components, a quasi-experiment, surveys, and semistructured interviews, was adopted in this study to provide a good balancing mechanism to triangulate various sources of data. Details of each component were reported.

A pilot study was adopted with the purpose of testing the feasibility of the research design. The results informed the present study in two respects: the use of a feedback form instead of a long commentary, and the use of two peer review exercises instead of one. The ethical issues were considered. The power asymmetry between the teacher and students was first reviewed, and then a description of the strategies was presented. These strategies were used to enable the students to give their voluntary informed consent, and to avoid potential bias in data analysis. The last section concluded the chapter.

CHAPTER 4 Analysis and findings

4.1 Introduction

This chapter presents the findings and analysis of the quasi-experiment, the surveys, and the interviews in order to address the three research questions of the current study. The current study used convenience sampling, where the sample used was taken from the student groups I taught. As there was some potential bias in this sampling technique, this study performed equivalence tests on all participants with the control of covariates. These covariates included the teacher-rated scores for the first task (Task 1 scores), the scores obtained in the public examinations for the HKDSE (HKDSE scores), and finally, the assessment scores measuring students' motivation to participate in peer learning (motivation score). By comparing the covariates across different groups, strategies for analysing the teacher-rated scores were chosen with the aim of enhancing the validity of the findings (Section 4.2). A one-way ANOVA was conducted to address the first research question regarding the effects of peer feedback conditions on teacher-rated task scores (indicating the students' task performance). A supplementary analysis was then conducted in the programme subsamples (BC and BUS). Ideally, the results should have replicated those of the full sample; if they did not, then they might not well represent a stable effect of peer review on task performance in the targeted population (Section 4.3).

The data collected by the surveys were then analysed to address the second research question regarding the students' perceptions in relation to the overall usefulness of peer review in terms of their learning, the aspects the students found useful, and their peers' competence in giving quality feedback (Section 4.4). In the interviews, the students were invited to share their perspectives on the benefits of using peer review in terms of learning in the long term (Section 4.5). The last section concludes the chapter (Section 4.6).

4.2 Group equivalence at baseline

This section first reports the observable differences among the treatment and control groups in the aspects of year of study and programme differences. Next, baseline data, including HKDSE scores, motivation scores, and Task 1 scores, are analysed to objectively assess group equivalence. Strategies based on the group differences were developed to analyse task performance across the groups.

Baseline differences across groups

First, the students' year of study on their programmes was different across the groups. Due to programme design, the BUS students took the CCN1003 course in either the first or second semester of their Year 2, while those from the BC programme could only take it during the first semester of their Year 1. Putting them in the same experiment was potentially problematic as the difference in task performance may simply reflect their college experience (i.e., Year 2 students may learn more effectively because they have had one more year of learning experience than the Year 1 students), not the impact of peer review. Having said that, the differences caused by the year of study should not have affected the pairwise comparison of progress between the two treatment groups. This is because the number of BC (Year 1) and BUS (Year 2) students was balanced in the treatment groups (give-first bilingual communication (GF-BC) N=24; give-first business (GF-BUS) N=25; receive-first bilingual communication (RF-BC) N=25; receive-first business (RF-BUS) N=25), and they all took the class in the first semester. Hence, the average change in the task scores of students under each condition reflected the contribution of both programmes equally.

Programme differences, not peer feedback conditions, may also have been the cause of changes in performance. As the students in the control group were from the BUS programmes, comparing their task performance with that of the treatment groups (from both the BC and BUS programmes) may have led to an under or overestimate of the effect of peer review caused by the presence of the BC students in the treatment groups only.

Thirdly, previous experience of peer review was not that similar across groups. From the data reported in the prestudy survey, the BC students had relatively more experience of peer review than the BUS students (Table 4.1). It could be possible that their exposure to earlier peer review training may influence their task performance (Lundstrom & Baker, 2009).

Table 4. 1

Prestudy Survey: Students' Responses Regarding Whether They Had Prior Experience of Peer Review (N=124)

Response	Give-first (N=50)		Receive-first (N=50)		Control (N=24)	**Total (N=124)**
	BUS (N=25)	BC (N=25)	BUS (N=26)	BC (N=24)	BUS (N=24)	
Yes	10(40.0%)	16(64.0%)	13(50.0%)	17(70.8%)	7 (29.1%)	**63 (50.8%)**
No	3(12.0%)	1(0.4%)	1(3.8%)	5(2.1%)	10 (41.7%)	**20 (16.1%)**
Not Sure	12(48.0%)	8(32.0%)	12(46.2%)	2(0.8%)	7 (29.1%)	**41 (33.1%)**

As there were notable differences between programmes, more baseline data were analysed to further explore group equivalence. The data collected included scores received in the HKDSE, scores of the first task (Task 1 score), and scores representing students' preference regarding peer learning (i.e., motivation score), all of which were collected in the prestudy survey.

The mean scores of the baseline data across groups in all samples are shown in Table 4.2. Among the three sets of data, either the give-first or receive-first group had higher point scores than the control group. For example, in regard to initial Task 1 scores, the receive-first group had the highest score (M=77.26), followed by the give-first group (M=76.42) and the control group (M=75.04), in the full sample. This ordering of the treatment groups was the same in the two programme subsamples. Similarly, higher levels of motivation were reported in both the BC and BUS treatment groups than in the BUS control group, indicating that some nonequivalence of the control group could influence all the results. If

students with greater motivation tended to make more progress between Task 1 and Task 2, the treatment group would be expected to be more motivated to do better than the control group, even in the absence of the intervention.

Table 4.2

Baseline Measures (Task 1 Score, HKDSE Score, and Motivation Score) Across Groups in the Full and Programme (Sub) Sample

Group	N	Task 1 score		HKDSE score		Motivation	
		M	SD	M	SD	M	SD
CON (BUS)	**24**	**75.04**	**3.09**	**15.17**	**2.30**	**3.64**	**0.48**
GF (FULL)	**50**	**76.42**	**3.44**	**15.60**	**1.91**	**4.08***	**0.57**
RF(FULL)	**50**	**77.26***	**2.80**	**15.18**	**2.18**	**3.95**	**0.57**
GF (BUS)	25	75.68	2.98	15.28	2.11	4.04*	0.60
RF(BUS)	26	76.73	2.76	15.46	2.16	3.98	0.56
GF (BC)	25	77.16*	3.76	15.92	1.66	4.11	0.55
RF(BC)	24	77.83*	2.78	14.88	2.21	3.91*	0.59
TOTAL	**124**	**76.49**	**3.20**	**15.35**	**2.09**	**3.94**	**0.57**

* Significantly different to the mean for the Con (BUS) group. CON = Control; GF = Give-first; RF = Receive-first; BUS = Business; BC = Bilingual Communications.

ANOVA models were then constructed to compare the mean of the baseline data across the three groups in the full sample. Significant differences were found in the motivation score ($F(2, 121)=5.157$, $p=0.007$) and the Task 1 score ($F(2, 121)=4.104$, $p=0.019$) but not in the HKDSE score. Post hoc Tukey's HSD tests showed that the significant differences came from the comparison of the control group with either of the treatment groups. The control group had significantly lower motivation scores than the give-first group (0.44 points, $p=0.005$) and significantly lower Task 1 scores than the receive-first group (2.22 points, $p=0.014$). Thus, some differences between the control group and the treatment groups were apparent at baseline, but the two treatment groups were not significantly different from one another on any of the three baseline measures.

In the BUS subsample analysis, the motivation score was found to be significantly different across the groups ($F(2, 72)=3.89$, $p=0.025$) and post hoc testing showed a large and significant difference between the control group and the give-first (BUS) group of 0.40 ($p=0.031$, $d=0.71$). In the BC subsample analysis, no significant differences in HKDSE score were found between the three groups, but significant differences were found in Task 1 ($F(2, 70)=4.86$, $p=0.011$) and motivation ($F(2, 70)=4.76$, $p=0.011$) scores. Post hoc Tukey tests showed that the mean Task 1 score of the control group was significantly lower than that of the give-first (BC) group (2.12 points, $p=0.025$, $d=0.64$) and lower than that of the receive-first (BC) group (2.79 points, $p=0.004$, $d=0.85$), with large effect sizes for these differences. The difference in motivation score between the control group and the give-first (BC) group was also large and significant (0.475 points, $p=0.03$, $d=0.83$).

Analysis strategies based on group differences

Ideally, the quasi-experiment would have analysed all the collected data in one analysis to maximize the sample size in order to detect the effects of the intervention. From the findings of the above analysis, this was problematic in the present study since significant differences at baseline were found between the control and treatment groups within both the full sample and the subsamples. However, a group comparison could still be made between the treatment groups since no significant pairwise differences between the give-first and receive-first groups were reported. This gave some confidence that the differences in the progress made between these two groups could be attributed to the experimental manipulation. The control group data were still useful in the triangulation of data, which was facilitated through cross-verification between the full sample and the subsamples. The current study included a supplementary analysis using the separate subsamples of BC (made up of the BC treatment groups and the BUS control group) and BUS (made up of the BUS treatment and control groups) students to throw some light on the robustness of the results on task performance in the full sample (more discussion about data triangulation can be found in Chapter 3, Section 3.8).

Furthermore, the statistical results reported that the baseline differences came from the Task 1 score and the motivation score. Higher initial Task 1 scores were found in the full-sample receive-first group than in the control group, but this reflected the absence of the higher-scoring BC students from the control group as there were no Task 1 score differences within the BUS subsample. To address the difference, this study focused its analysis on the *difference* (or change) in task scores in Task 2 and Task 3 relative to Task 1 rather than on the *levels* of the Task 2 and 3 scores. By doing so, individual differences in initial Task 1 performance were already incorporated into the dependent variables. Regarding the differences found in the motivation score, all baseline measures were included in the quasi-experiment as covariates in the estimation models. This controlled for any independent association between task progress and level of motivation or the other baseline measures, eliminating the potential bias caused by these measures. Kember (2003) explained that genuine control of a study's context is impossible as it is not practical for the researcher to control everything in the study. For postpositivists, the use of these strategies is standard for researchers seeking to approximate the truth (Crotty, 1998). Following the same line of thinking, the analysis below seeks to approximate the causal impact of peer feedback conditions on task performance without claiming a definitive cause-and-effect relationship.

4.3 RQ1: What were the effects of receiving and giving peer feedback on task performance in the Chinese academic writing course? Did the effects depend on the order of the feedback process?

This section reports the effects of feedback condition on task performance across groups using different measures of progress from Task 1 to Task 2 (T2-T1), Task 2 to Task 3 (T3-T2), and Task 1 to Task 3 (T3-T1) in the full sample and the subsamples. The change in the mean scores in different progress measures are first outlined, showing an overall trend across groups. Six one-way ANOVA models were estimated by using the three measures of learning progress as the dependent variables and groups (give-first, receive-first, and control) as the independent variables with or without adjustment for baseline

measures (Task 1 score, motivation score, HKDSE score) in the full sample. The estimation was then conducted in the subsamples to investigate the stability of the findings.

Change in mean score in different progress measures

The differences in the mean scores of the progress measures within T2-T1, T3-T2, and T3-T1 across groups in the full sample and the subsamples are shown in Table 4.3. The bottom row of the table shows that, overall, the average task score increased by 1 point between T2 and T1 and by nearly 2 points between T3 and T2, thus giving a rise of nearly 3 points between T3 and T1. The scores of the receive-first group of the full sample (RF-FULL) showed the greatest increase from T1 to T3 and also from T3-T2 (which followed their experience of giving feedback), but not from T2-T1 (which followed their experience of receiving feedback).

The overall trends in students' scores among the three groups were in general upward (Figure 4.1a to Figure 4.1c). As the nature and difficulty of the three tasks differed, the trends as a measure of the improvement in "absolute" skill levels within the semester must be carefully interpreted. What is important for the purpose here is whether the trends differed between groups. The receive-first groups (RF-FULL) had the highest initial Task 1 score compared with the other groups in all (sub)samples and experienced a sharp rise from T2 to T3 in all (sub)samples. Comparatively, not all of the give-first group appeared to have experienced a similar boost to their task scores in general. In the BUS programme, the give-first group experienced an unexpected drop (M=-1.56) from T2 to T3 (Figure 4.1c), while in the BC programme, a sharp improvement was observed (M=2.2) (Figure 4.1b). This led to a tiny T3-T2 improvement in the combined group (GF (FULL), M=0.32) (Figure 4.1a).

The descriptive results showed clearly that the scores from the first to the last tasks of all groups improved in the full sample. Compared with the give-first group (M=1.28) and the control group (M=2.11), the receive-first group had the largest overall average improvement of 4.87 points. Hence, the improvement of the receive-first group was higher than that of the give-first group by more than 3 points from Task 1 to Task 3.

Table 4.3

Differences in mean score in various groups in terms of T2-T1, T3-T2 and T3-T1

The order	N	T2-T1		T3-T2		T3-T1	
		M	SD	M	SD	M	SD
Control (CON)	**24**	**1.79**	**1.91**	**0.32**	**7.24**	**2.11**	**7.22**
GF-FULL	**50**	**0.96**	**4.10**	**0.32**	**9.91**	**1.28**	**10.64**
RF-FULL	**50**	**0.64**	**3.60**	**4.23**	**7.88**	**4.87**	**7.91**
GF-BC	25	0.04	4.38	2.2	8.51	2.24	9.41
RF-BC	24	-0.33	4.07	3.82	5.63	3.49	6.24
GF-BUS	25	1.88	3.64	-1.56	10.98	0.32	11.86
RF-BUS	26	1.54	2.90	4.61	9.61	6.15	9.11
TOTAL	**124**	**0.99**	**3.56**	**1.90**	**8.80**	**2.89**	**9.08**

Figure 4. 1a

Plot of Mean Scores Across Different Groups in the Full Sample

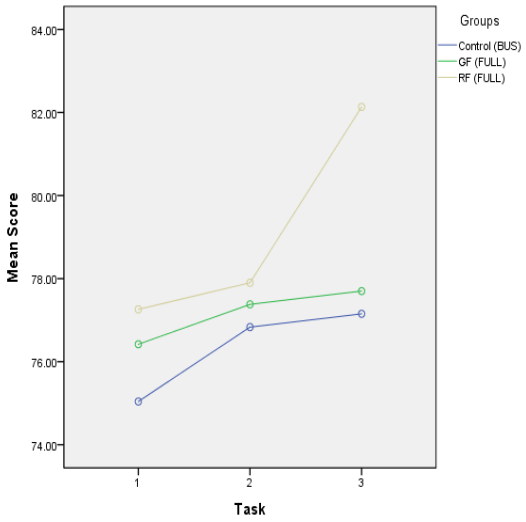


Figure 4. 2b

Plot of Mean Scores Across Different Groups in the BC Subsample

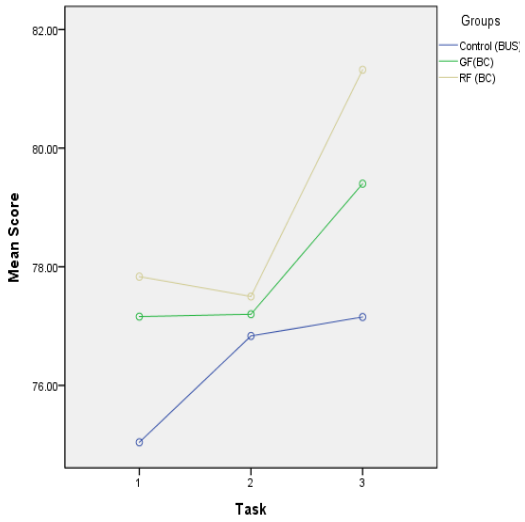
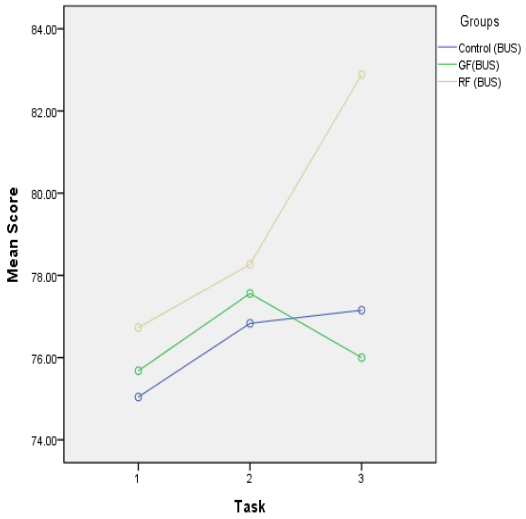


Figure 4.3c

Plot of Mean Scores Across Different Groups in the BUS subsample



Main analysis (Full sample analysis)

Table 4.4 reports the results of the hypothesis tests on the potential difference between the groups in regard to the change in task scores across different assignment tasks in T2-T1, T3-T2, and T1-T3.

Six ANOVA models were estimated on the full sample, with progress measures as the dependent variables (DVs), the changes in task performance across the groups (group) as the independent variables (IVs), and baseline data (Task 1 score, motivation score, and HKDSE score) included as covariates in the final three models. To elaborate the results, the ordering of group progress is provided in the bottom row of Table 4.4, which may offer new perspectives on the effects of feedback condition on task scores.

Table 4.4

*Comparison of the Change in Task Scores in Different Progress Measures Across Groups in the Full Sample With or Without Baseline Data Included as Covariates**

	Unadjusted model (without control)			Adjusted model (with control)		
DV: Progress measure	T2-T1	T3-T2	T3-T1	T2-T1	T3-T2	T3-T1
IV: Group	F=0.848 p=0.431	F=3.051 p=0.051	F=2.102 p=0.127	F=0.192 p=0.825	F=2.668 p=0.074	F=3.026 p=0.052
Covariate: Task 1 score	N/A	N/A	N/A	F=52.791 p=0.000	F=0.562 p=0.455	F=2.802 p=0.097
Covariate: Motivation score	N/A	N/A	N/A	F=0.001 p=0.973	F=0.021 p=0.885	F=0.017 p=0.896
Covariate: HKDSE score	N/A	N/A	N/A	F=8.064 p=0.005	F=0.620 p=0.433	F=2.922 p=0.090
Comparison**	CON>GF >RF	RF>CON >GF	RF>CON> GF	RF>CON> GF	RF>CON >GF	RF>CON> GF

* The shaded areas indicate that the p value is significant (p= or <0.05) or marginally significant (p=or <0.1).

****Comparison of performance progress from task to task under different feedback conditions.

(1) Group difference from Task 1 to Task 2 (T2-T1)

When the baseline data were not adjusted in T2-T1, no significant group differences were reported, meaning that no relationship can be claimed between change in task performance and the feedback conditions of (a) having given feedback for the give-first group and (b) having received feedback for the receive-first group. The control group achieved the greatest progress, followed by the give-first group, and the receive-first group achieved the least progress.

When this model (T2-T1) was adjusted for the baseline data, the Task 1 score was a highly significant predictor of T2-T1 change score ($p<.001$). The parameter estimates indicated a negative regression coefficient (B= -0.635), meaning that the Task 1 scores were significantly negatively associated with the scores for T2-T1 progress. Adjusting for this tended to reduce the estimates of relative progress in the control group (the lowest achievers in terms of Task 1 score; see Table 4.2) and strengthen the estimates of progress for those who had received feedback (the RF group; the highest achievers in terms of Task 1 score) in comparison to the unadjusted model. Meanwhile, although the HKDSE score ($p=0.005$) was also found to have significant effects on the change in score, adjusting for this had little impact on the estimated group differences due to the lack of systematic difference across groups at baseline (see Section 4.2.1). In this model, progress was highest for the receive-first group (M=1.19) and lowest for the give-first group (M=0.822), with the control group falling in between (M= 0.932). The pattern suggested that the initial effect of giving feedback was smaller than that of receiving feedback, but it is important to emphasize that the ANOVA could not reject the null hypothesis that average progress was the same in all three groups. Thus, overall, the estimates did not provide any compelling evidence that feedback condition prior to Task 2 was associated with the change in performance relative to Task 1.

(2) **Group difference from Task 2 to Task 3 (T3-T2)**

In the unadjusted model (T3-T2), group differences were found to be on the edge of statistical significance ($p=0.051$) in the progress measure T3-T2. This measure reported the effects on Task 3 of (a) having given feedback for Task 2 for the receive-first group and (b) having received feedback on Task 2 for the give-first group, relative to the control group, which experienced no “feedback progress.” The results showed that the receive-first group achieved the highest improvement, while the improvement in the give-first and the control group was virtually the same.

In the adjusted model, the pattern reported in the ANOVA model and the ordering of the group progress were very similar to the unadjusted estimates since none of the baseline data (Task 1, motivation, and HKDSE scores) were significantly associated with this progress measure. First, the p value did not quite reach conventional levels of significance in the F-tests (F=2.668 p=0.074), but the "generous" procedure of LSD post hoc testing (i.e., one that is vulnerable to finding false positive Type I errors) did point to a significantly greater T3-T2 progress measure in the receive-first group than in the give-first group (p=0.026). Second, the order of group progress was the same, the receive-first group achieving the greatest progress and the progress of the give-first and control groups being virtually the same.

Hence, there was some weak and tentative evidence that the group who gave feedback on Task 2 did better on Task 3 than one of the groups that did not give feedback on Task 2. The robustness of this finding was put into question for two reasons: No significant relationship was reported between task performance in Task 2 and the feedback condition of giving feedback on Task 1, and giving feedback on Task 2 did not result in significant gains over the control group in Task 3.

(3) **Group difference from Task 1 to Task 3 (T3-T1)**

No group differences (F=2.102 p=0.127) were reported in the unadjusted estimates in the final progress measure T3-T1, which reflected the combined effects of giving and receiving feedback on overall task performance when a participant had experienced either the give-then-receive or the receive-then-give condition in the course of this study. The receive-first group made the greatest progress, while the give-first group made the least, with the control group in the middle.

The p values of the Task 1 (F=2.802, p=0.097) and HKDSE (F=2.922, p=0.090) scores were both significant at the p<0.1 level. Adjusting this baseline measure would have had little impact on the estimated group difference. A marginally significant group difference (F=3.026. p=0.052) was found, and the LSD post hoc testing suggested that the receive-first group (M=5.324) made significantly more progress and the give-first group (M=1.049)

made the least progress, with the control group falling in between (M=1.652). Only the mean difference between the receive-first and give-first groups was found to be significant (p=0.020). The pattern suggests that the students who received peer feedback before giving it made more progress than those gave peer feedback before receiving it.

In short, when the baseline data were not adjusted, no significant group differences were reported in T2-T1. The control group made the greatest progress, followed by the give-first group in the middle and the receive-first in last position (Table 4.4). When the baseline data were adjusted, again no significant group differences were reported, but the receive-first group made the greatest progress, followed by the control group, while the give-first group made the least progress. In T3-T2, a marginal group difference was reported, and in both the adjusted and unadjusted models, the receive-first group made the greatest progress, followed by the control group, while the give-first made the least progress. In the T3-T1 unadjusted model, no group differences (F=2.102 p=0.127) was reported which reflected the combined effects of giving and receiving feedback on overall task performance, when a treated participant had experienced either the give-then-receive or the receive-then-give approach in the course of this study. The Receive-first group has the greatest progress while the Give-first group has the least, with the control group in the middle.

The following section reports the results of a supplementary analysis conducted on subsamples of the BUS and BC groups to compare the results of the full sample analysis. The comparison was conducted at two levels. The first level compared task scores across groups for different progress measures by conducting an ANOVA of the two subsamples; the results are presented in Table 4.5 and Table 4.6. The second level involved a comparison of the group learning progress of the full sample and subsamples. Ideally, the results of the comparison between the subsample analysis and the full sample should be the same; if unstable results are obtained, they may not be generalizable to the broader targeted population.

Supplementary analysis: Sub-sample analysis

In both the BUS and BC subsample analysis (Tables 4.5 and 4.6), no significant group difference (at the 5% level) was reported in any of the adjusted models, which means that the ANOVA could not reject the null hypothesis that the average progress was the same in all three groups. This was not the case in the full sample analysis, where a marginally significant group difference was reported in the adjusted estimates of T2-T1 and T3-T1 (Table 4.3), perhaps because of the loss of power associated with the smaller sample sizes. With respect to the performance progress under different conditions, the ordering was not the same in the BC (i.e., Control>GF>RF) and BUS (GF>CON>RF) groups, while the order in the full sample was GF>CON>RF in the unadjusted model.

Table 4.5

Comparison of Performance Across Treatment Groups and Control Group in the BUS Subsample

	Unadjusted model (without control)			Adjusted model (with control)*		
DV: Progress measure	T2-T1	T3-T2	T3-T1	T2-T1	T3-T2	T3-T1
IV: Group	F=0.094 p=0.910	F=2.877 p=0.063	F=2.471 p=0.092	F=0.183 p=0.833	F=2.078 p=0.133	F=2.210 p =0.117
Task 1	N/A	N/A	N/A	F=39.295 p=0.000	F=2.91 p=0.093	F=0.037 p =0.847
Covariate: Task 1 score	N/A	N/A	N/A	F=1.31 p =0.256	F=1.336 p =0.252	F=0.739 p =0.393
Covariate: Motivation score	N/A	N/A	N/A	F=11.872 p=0.001	F=0.947 p =0.133	F=3.093 p =0.083
Covariate: HKDSE score	GF>CON> RF	RF>CON> GF	RF>CON>G F	RF>CON>G F	RF>CON> GF	RF>CON>G F

* The shaded areas indicate that the p value is significant (p= or <0.05) or marginally significant (p=or <0.1).

****** Comparison of performance progress from task to task under different feedback conditions.

Table 4.6

*Comparison of Performance Across Treatment Groups and Control Group in the BC Subsample**

	Unadjusted model (without control)			Adjusted model (with control)		
DV: Progress measure	T2-T1	T3-T2	T3-T1	T2-T1	T3-T2	T3-T1
IV: Group	F=2.343 p=0.104	F=1.402 p=0.253	F=0.231 p=0.795	F=0.129 p=0.879	F=0.996 p=0.386	F=0.727 p=0.487
Covariate: Task 1 score	N/A	N/A	N/A	F=20.421 p=0.000	F=0.000 p=0.992	F=3.535 p=0.064
Covariate: Motivation score	N/A	N/A	N/A	F=0.501 p=0.481	F=0.912 p=0.343	F=0.376 p=0.542
Covariate: HKDSE score	N/A	N/A	N/A	F=0.931 p=0.338	F=0.063 p=0.802	F=0.414 p=0.522
Comparison	CON>GF> RF	RF> GF > CON	RF>CON>GF	RF>CON>GF	RF>CON> GF	RF>CON>GF

* The shaded areas indicate that the p value is significant (p= or <0.05) or marginally significant (p=or <0.1).

****** Comparison of performance progress from task to task under different feedback conditions.

The progress made by the Receive-first group

Although neither of the treatment groups made significantly greater progress than the control group at any stage, there was some weak evidence that receive-then-give feedback was more beneficial relative to give-then-receive feedback, with the improvement manifesting after having given feedback at the second stage. Given that the comparisons between the treatment groups (receive-first and give-first) were still more reliable than any comparisons using the control group since significant differences at baseline were found only between the control and treatment groups, this result provided robust evidence, albeit rather weak, for an effect of the feedback conditions on objective task performance.

Summary

To summarize, no significant differences were reported between the feedback conditions and task performance. Compared with the groups in the give-then-receive and no-feedback control conditions, the progress made by the students in the receive-first group was the highest across groups when baseline differences were controlled. This result was the same for all progress measures and across all samples, but in neither of the treatment groups could performance be distinguished statistically from the performance of students in the no-feedback control condition, possibly as a result of the limitations of the study's design. A major limitation is that the study with the control group (i.e., no-feedback condition) took place in the semester after the main study had been conducted, which was not ideal for a comparison as the control group students came from a different cohort that took the course in a different semester.

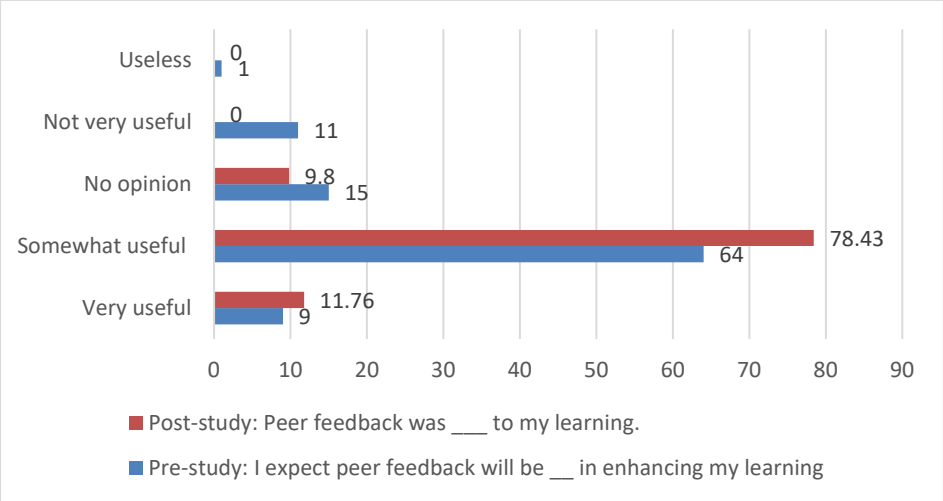
4.4 RQ2: How and in what respects were the students satisfied with the usefulness of peer review before and after the study?

Overall perceptions on the usefulness of peer review

In general, the students were positive about the usefulness of peer review. In total, 100 students from the give-first and receive-first groups completed both surveys. In terms of the extent to which the students thought peer review would be useful to their learning, the mean score, based on a 5-point Likert scale, was 3.7. Compared to the prestudy survey, the percentage of students choosing "very useful" to describe the usefulness of peer feedback increased in the poststudy survey (from 9% to 11.8%), as did the percentage choosing "somewhat useful" (64% to 78.4%), whereas the percentage of students choosing "useless," "not useful," or "not sure" dropped from 26% to 19.6% (Figure 4.2).

Figure 4.4

Students' Perceptions of the Usefulness of Peer Feedback in Enhancing Their Learning in the Prestudy and Poststudy Questionnaires (%) (N=124).



The respondents were also invited to indicate their perceptions of the giving feedback and receiving feedback processes. As shown in the table below, all the mean scores of the give-first and receive-first groups on the 12 statements describing students' perceptions were above 3.5, indicating that in general, the students were satisfied on their experience of peer review in the current study. Students in the receive-first group gave a slightly higher average rating (M=3.97) than those in the give-first group (M=3.85) in reviewing their experience of giving feedback. The same is true when both groups were asked to evaluate their experience of receiving feedback—the receive-first group gave a higher average rating (M=3.94) than the give-first group (M=3.80).

Table 4.7

Responses on Students' Perception of Giving and Receiving Peer Feedback in the Poststudy Survey (N=100)

Likert-type question in the poststudy survey*	GF(FULL)		RF(FULL)	
	Mean	SD	Mean	SD
The experience of giving feedback				
Q1. I could tell the strengths of my peers' work after reading it.	3.66	0.69	4.00**	0.57
Q2. I could tell the weaknesses of my peers' work.	3.78	0.68	3.84	0.65
Q3. I could give helpful opinions when I reviewed peers' work.	3.82	0.75	3.78	0.68
Q4. I felt cognitively challenged and could think of more ideas after reading my peers' work.	4.14	0.73	4.06	0.71
Q5. I could identify the problems in my own work after reviewing the work of others.	3.90	0.54	4.20**	0.49
Q6. The reviewing experience triggered my learning.	3.82	0.60	3.94	0.55
Average	3.85	0.67	3.97	0.61
The experience of receiving feedback				
Q7. The comments received informed me about the strengths of my work.	3.78	0.71	3.98	0.59
Q8. The comments received informed me about the weaknesses of my work.	3.84	0.68	4.06+	0.62
Q9. I received helpful comments from my peers.	3.60	0.76	3.78	0.76
Q10. I felt I had learnt from the received comments.	3.84	0.55	3.90+	0.68
Q11. I could identify the mistakes or problems in my own work through receiving peer feedback on my work.	3.76	0.66	3.98	0.55
Q12. Multiple perspectives included in the feedback that I received triggered my learning.	3.98	0.47	3.94	0.55
Average	3.80	0.64	3.94	0.63

*In the poststudy questionnaire, the students were asked to indicate the extent to which they agreed with these statements using a 5-point Likert scale.
** p<.01, * p<.05, + p<.10.

Independent t-tests were then adopted to compare the responses of the give-first and receive-first groups over the 12 questions, with the rating scores of the questions as the dependent variables and the groups (i.e., give-first or receive-first) as the fixed factors. The rating scores of items Q1, Q5, Q8, and Q11 were found to be marginally significant (p<.10). Compared with the students in the give-first group, the students in the receive-first group had a stronger self-efficacy in identifying problems (Question 1) and felt that they could benefit from reviewing the work of others (Question 5). With regard to their experience of receiving feedback, more students from the receive-first group agreed with the comments they had received describing their weaknesses (Question 8) and felt that they were able to learn from those mistakes.

In short, Table 4.7 indicates that the students in the receive-first group were more positive about their reviewing experience in the second peer review exercise than the students who did not engage in the same condition.

Perceived benefits brought by a particular aspect of peer review

In addressing the aspects of peer review that could benefit them, most students chose either "receiving comments" or "both" (i.e., both receiving and giving comments) in the prestudy survey (79%) and the poststudy survey (80.45%). The percentage of students who recognized their peers' competence in giving quality feedback increased from 65% in the prestudy survey to 85% in the poststudy survey. This result is consistent with a more recent study conducted by Cao et al. (2019), in which the majority of the participants (11 out of 15) stated their learning could benefit from engaging in receiving peer feedback (4 participants) or both receiving and giving feedback (7 participants) (Figure 4.3).

Figure 4.5

Students' Perceptions of the Usefulness of a Particular Aspect of Peer Review (%)

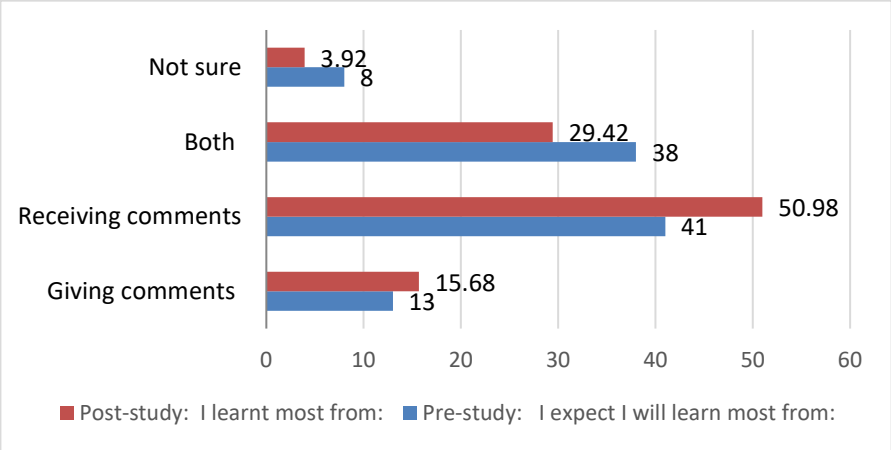
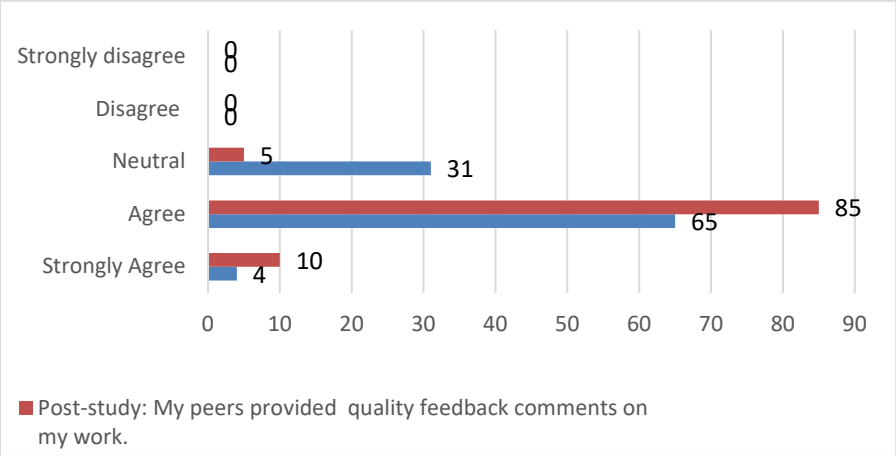


Figure 4.6

Change in Perceptions of Peers' Competence in Giving Useful Feedback in the Pre- and Poststudy Surveys (%)



Dissatisfaction with peer review

Dissatisfaction about the quality of the feedback that the students had received, as well as the fairness of the feedback practices was expressed. In the interview, Lala stated that she was dissatisfied about the criticism she had received in describing her performance and thought that the feedback givers did not perform their job properly. Responses in the poststudy survey indicated students' expectations regarding the provision of solutions in the peer feedback they received. Here are some quotations from the open-ended question in the poststudy survey:

"The comment is irresponsible. It should give me suggestions."
"Comments are useless if they only describe problems. I often did not know how to correct a problem if no suggestions were provided."
"The comments should provide more details about what I should do next."

As the data above illustrate, the students used imperatives, such as "should" and "must," in conjunction with the word "suggestions" in explaining why the feedback they had received did not fulfil their expectations. These comments showed that some students were expecting practical solutions in the feedback they received. In the interviews, some students said they preferred receiving teacher feedback instead of peer feedback for various reasons. First, the quality of peer feedback varied, and the students may not have wanted to validate

all the information they received. For example, Jacky said that checking the quality of the feedback he had received was a waste of time, while learning from the teacher was "the right path of learning." He believed that the purpose of having feedback was to verify his work and provide solutions to the problems identified, not having to verify the correctness of feedback he received himself. He added, "I think the teacher feedback is something I have paid for. I hope that by getting more information from the teacher, my studies at the college will be worth the cost."

Jacky's opinion was echoed by Ali, another student in the receive-first group. Ali said she preferred learning under the guidance of the teacher, as then "students can get the answers to a given problem with no panic." Interestingly, both said that they did not want to engage in peer review, but they did read the comments carefully. In explaining her actions, Ali said that reading all the comments and checking if they were valid was a very time-consuming process. She agreed with Jacky that learning from the teacher is "the right path of learning" but still there might be some peer feedback that worthy of consideration.

The conflicts that arise from group work could also be an issue that leads to negative emotion. In her interview, Long said she felt frustrated when she had put great effort into giving detailed comments on assignments but received little in return. Similar findings were reported in Mulder et al.'s (2014) study: Their interviewees said they did not feel respected if their feedback givers did not provide detailed comments. To avoid the frustration, Long said she preferred to remain passive and wait for the teacher's guidance to avoid the negative feelings that may arise as a result of peer review.

Summary

To conclude, the students, in general, found peer review somewhat useful to their learning. In particular, in reviewing their experience of receiving and giving feedback, the students in the receive-first group had a slightly higher average rating than those in the give-first group. This result provides some evidence that compared with the students in the give-first group, the students in the receive-first group were more likely to be satisfied with the usefulness of peer review in this study. In addition, the majority of students recognized the learning benefits brought by receiving comments and by both receiving and giving comments. Also, they had more confidence in their peer's competence in producing feedback.

Dissatisfaction associated with peer review were also expressed in both the surveys and the interviews. Some students did not accept the criticism they received. Others were dissatisfied about the quality of the peer feedback they received. However, their perceptions may not necessarily have affected their actual responses to peer review. In addition, negative emotions about peer review were also observed. Students were concerned with the contribution of the feedback givers. They felt frustrated when they hand put great effort into giving detailed comments on assignment but received little in return.

4.5 RQ3: From the students' perspective, how and to what extent did they learn and benefit from engaging in the feedback process on their essays?

A total of eight students took part in the semistructured interviews, sharing their opinions on how the receiving and giving feedback process benefited their learning in the long term. Two related themes emerged, and the most representative quotations were chosen from their responses to illustrate the respective themes.

Being more reflective on one's academic work

In the semistructured interviews, all of the students agreed that both receiving and giving peer feedback can enhance their problem-solving skills. Specifically, Tom said he enjoyed reading their classmates' work, in which he did not have these opportunities in the teacher-centred pedagogy. By comparing his own work with his classmate against the respective criteria, he read more relevant materials and he believed that it could improve his performance of the subsequent assignments.

Another student, Lala from the receive-first group shared that the comments she had received for her Task 1 were concerned with her use of grammar in the essay. When she reviewed her peers' essays (Task 2), she was able to identify many careless mistakes. She realized that the grammatical errors were "eye-catching" and easily identified by the readers. Hence, she paid more attention to proofread the drafts for her essays when she prepared the subsequent task (Task 3), and thought that demonstrating a good grasp of grammar was important for clear communication with the readers.

Long from the give-first group said that she enjoyed identifying problems for her classmates. When she was the feedback giver in the first peer review exercise, she suggested to one essay author that they should not include too much statistical data but rather should focus more on the argument of the essay. She said she was proud of her own academic writing skills and believed that her criticisms were constructive comments which were useful for revision. In the next peer review exercise, her feedback giver said she was not sure about the names mentioned in the assignments. Long searched for those names on the Internet and found that people would put the job title in front of the names when they used them in an essay. For example, "Hong Kong Chief Executive" should be placed in front of "Carrie Lam." She realized that such an information was necessary as it enabled the reader to know more about the person that mentioned in the essay. Therefore, when she prepared her next assignment, she checked if any information should be added to help reading comprehension.

Although Lala and Long shared different feedback experiences in peer review, both experiences trigger them to reflect the quality of their own work. They considered their beliefs of the ways to prepare their academic writing from a reader's perspective and became more critical with their own work.

Becoming self-regulated learners by seeking external information to support their own work

Peer review tends to offer opportunities for the students to practice their learner autonomy and regulate their learning, when they search for more useful information that is relevant to their studies (Yu, 2019). In the current study, all of the students in the semistructured interviews said that they had search for more information when they performed give or receive feedback in peer review. For example, Joyce said seeking external information for the work she reviewed can make her comments, "sound professional". She also pointed out that the experience helped her become more familiar with the task requirements, and therefore, more able to spot out the careless mistakes committed by similar essays.

In the semistructured interviews, the students were also invited to comment on the quality of feedback they received. All students reported that they were not sure whether their classmates have sufficient subject knowledge to provide correct feedback. Fu had shared what he had written in his essay on investigating the wild pigs problems cause in suburban areas, "since pigs cannot swim, relocating the animals to the uninhabited islands will stop them from causing a nuisance or attacking residents in the city." His classmate who reviewed his work put a question mark next to this sentence, meaning that there might be some problems. Although Fu thought that his classmate was wrong, he still searched for news on the Internet and found that wild boars did swim well. His final decision was made after discussing this issue with another classmate, who told him that pigs can swim very well. In this process, Fu did not just fill his knowledge gap about whether a pig can swim or not. He actively engaged in the process and he was more aware of checking whether his perceptions were correct when he prepared his writing on social issues.

Summary

In short, three students (Tom, Lala and Long) had shared their feedback experience regarding how peer review encouraged self-reflection on learning. Tom said he enjoyed reading their classmates' work and compared its quality with his own work. That comparison prompted him to think of the strategies he should take for improvement. Another student, Lala, said receiving peer feedback benefited her learning. She was scaffolded by the feedback she received and developed strategies in preparing academic writing in the future. Finally, Long shared how she learnt from the feedback she received by incorporating more information in her essays.

On the other hand, the feedback processes also offers opportunities for the students to monitor their performance by seeking external information. Joyce and Fu shared that the information they searched enable them to become more familiar with the task requirements. Those information can help clarifty the students'understanding on the topics being studied. They become more able to identify the errors if they encountered similar essays in the future; even without peer review, they can make a more effective decision on what should be done or should not be done to achieve the learning goals even without peer review. From the sociocultural perspective, these students were scaffolded by the feedback process in peer review and acquired the necessary skills or knowledge to complete a task that they may not complete it independently.

4.6 Conclusion

In sum, the results and the analysis of the effects of peer review on task performance and learning satisfaction were reported to address the research questions of this study. To investigate the effect of peer review on task performance, data representing students' baseline characteristics, including Task 1, HKDSE, and motivation scores, were collected and analysed after first assessing group equivalence. On the basis of the results, analysis strategies were devised to investigate the robustness of the results on task performance in the full sample.

Attention was then focused on the quasi-experiment, which compared the effects of giving and receiving feedback on the task performance of the treatment and control groups using different measures of learning progress within the semester. Two major findings were reported. First, no significant group difference was reported, or the evidence was too weak to claim an effect on task performance. Second, the receive-first group made better progress than the give-first group. As such, the first research question was addressed.

The second research question was addressed by the survey data, which showed that students' overall perceptions of peer review were positive in this study. The perceived usefulness of the peer feedback received increased, with students expressing stronger confidence that their peers could provide useful feedback, between the prestudy survey and the poststudy survey. Dissatisfaction associated with the quality of peer feedback was also expressed, as the comments they received did not include practical solutions upon the problems identified in the comments.

Finally, to address the last research question, all of the students in the interviews agreed that the feedback processes in peer review enabled them to reflect from their learning. They became autonomous learners by seeking external information for the topic they studied, and developed self-regulation strategies to monitor their performance. That could increase their confidence in doing similar task in the future.

CHAPTER 5 Discussion and conclusion

5.1 Introduction

The current study argued a disconnection among the subdegree policy aim in Hong Kong, the goals of educators and the expectations of students with regard to learning in the context of community college. It set out to explore the impacts of receiving and giving feedback on learning in a Chinese academic writing course at a Hong Kong community college. The following research questions were addressed:

RQ1: What were the effects of receiving and giving peer feedback on task performance in the Chinese academic writing course? Did the effects depend on the order of the feedback process?

RQ2: How and in what respects were the students satisfied with the usefulness of peer review before and after the study?

RQ3: From the students' perspective, how and to what extent did they learn and benefit from engaging in the feedback process on their essays?

The following section summarizes and discusses the results of the study in relation to task performance and learning satisfaction (Section 5.2). The discussion is followed the implications drawn with regard to the use of peer review from a theoretical, a practical, and a policy perspective (Section 5.3). What follows are the study limitations and the recommendations for future research (Section 5.4). The last section concludes the study (Section 5.5).

5.2 Summary and discussion

The major findings of this study, in relation to task performance and learning satisfaction, are summarized and discussed as follows.

Effects on task performance

First, the quasi-experiment in this study reported that no overall significant differences via different feedback conditions were reported in any progress measures (T2-T1, T3-T2, and T3-T1), with or without controlling for the baseline differences across the task performance, in either the subsamples or the full sample. However, when baseline differences were controlled for, the students in the receive-then-give condition made better progress than those in the give-then-receive condition.

Possible reasons for the lack of relationship between the feedback conditions and the progress

The lack of relationship was possibly caused by the design of the control group in this study. Due to ethical concerns, the control group experiment (i.e., the no-feedback condition) took place in the semester (Semester 2, 2017-18) after the intervention (Semester 2, 2017-18); this was not ideal for a comparison as the students came from a different cohort that took the course in a different semester.

The use of feedback form which supported minimal marking also warrants attention. To review the work of the others, the feedback givers only needed to put a tick in the box on the form. The box represented a concept that was relevant to the error that the assignment author committed. The feedback givers may need to write short comments on the forms regarding the errors they have specified. The main reason for using the feedback form was to replace handwritten comments that might consume too much time. However, the design may also have shortened the time that the students spent on reviewing the errors carefully. In the future, if I am going to conduct similar peer review exercises again, I will consider focusing on specific topics when I engage the students in peer review. I may not ask the students to comment on the whole essay to avoid spending too much time in understanding the work they reviewed.

The delivery for teacher feedback may also have confounded the effects of peer review. Following the college's practices, the students received teacher feedback within one month of submitting the assignment, meaning that they received both teacher and peer feedback at roughly the same time during the semester. As reported in the semistructured interviews, the teacher had been depicted as the "leader" providing guidance about what should be done next to complete assessment tasks in the students' previous experience, the students may have preferred teacher feedback rather than peer feedback. It could be the reason for the lack of relationship reported between feedback conditions and task performance.

Even though neither of the treatment groups could the performance of the students be distinguished statistically from that of the students in the no-feedback control condition, the progress of the receive-first group is found to have better progress with the other group. In this study, comparisons between the treatment groups (receive-first and give-first) were more reliable than any comparisons using the control group because significant differences at baseline were only found between the control and treatment groups. The results indicated that when the baseline differences were controlled, the students who learnt by receive-then-give made better progress than those who learnt by give-then-receive. This result was consistently reported in all progress measures and across the full sample and subsample analysis.

From the sociocultural perspective, why the receive-first group could have a better progress than the give-first group?

The sequence in the receive-first group, whereby students first received feedback reviewing their essays and then engaged in giving feedback to evaluate the work of others, is supported by the feedback model (Hattie & Timperley, 2007) and the notion of ZPD from the sociocultural perspective (Vygotsky, 1978).

When students receive feedback that assesses their essays, that information is often related to the task requirements. From Hattie and Timperley's (2007) perspectives, that information is highly context-specific, and is limited to a specific task. The peer feedback that received could also occur at the process level, which is related to the advices or

suggestions about how the assignment author should prepare the task. That advices or suggestions occur at the process level (Hattie & Timperley, 2007) provided the necessary skills or knowledge to complete the task in which they may not complete it independently.

The feedback at task level and process level builds a solid foundation for the students to complete a more challenging task (i.e. to evaluate the work of others). In that case, their actual developmental level is higher than that of students who did not have a similar experience; from the sociocultural perspective, they could engage in a more challenging task, namely, to give new ideas and constructive advice when they evaluate the work of others. Learning occurs within the students' ZPD, if they can draw inferences from their experience and then think of possible solutions to deal with the issues being studied even without engaging in peer review.

As another finding of the study, it was reported that peer review offers opportunities for students to practice autonomous learning. encourages self-reflection on task performance, empowering the students for their own studies, according to the interview data. Some of the participants in the interviews said they searched for more external resources in peer review no matter which roles they performed. They developed their own strategies when they prepared their subsequent task. The participants also reported that the process of giving and receiving peer feedback was cognitively challenging and it benefited their learning by offering opportunities for them to read the work of others and learn from them.

Effects on learning satisfaction

The second finding is about the students' learning satisfaction about the usefulness of peer review. As shown by the survey, more students found peer review "somewhat useful" after the study (increased by 14.4%) and more students recognized their peers' competence to give good comments about their work. The majority of the students thought receiving comments or both giving and receiving comments in peer reviews benefitted them most. Also, the poststudy survey showed that the students in the receive-then-give condition were more likely to recognize the potential benefits brought by peer review than the students in the give-then-receive condition.

There are several possible reasons that explain the students' satisfaction with the usefulness of peer review. To cite an example, in this study, the students were offered training on how to use peer feedback for revision and how to give feedback evaluating the quality of work so that they could become familiar with the assessment criteria before they engaged in peer review. Also, a feedback form was used to support the peer review process in order to ensure the quality of the feedback comments being exchanged and to ensure a smooth reviewing process. Studies have shown that students who follow the steps embedded in such forms are more likely to appreciate the usefulness of peer feedback than those who ignore these steps (Cao et al., 2019).

The feeling of being in control of their own learning may also be a reason explaining why the students were satisfied with the outcomes of the peer review process. As reported in the semistructured interview, the students found engaging in the feedback giving process both rewarding and intellectually stimulating. They produced feedback through a bottom-up approach, in which they had discussions with group members of similar status. The students found this process rewarding because they enjoyed the meaning-making process in a peer discussion context in which they had the opportunity to read relevant works (Li et al., 2010; Venables & Summits, 2003). In a peer review study on undergraduate students in the United States, Li and Steckelberg (2006, p. 268) remarked that the students enjoyed reading their peers' essays; some interviewees in their study said they had not thought of some of the ideas before and felt inspired. In Venables and Summits' study (2003, p. 288), the students reported that the process of making a judgement after reading the relevant work was, by its nature, "intellectually stimulating and useful to their better understanding of the course material." Hence, the satisfaction reported in this study may have come from the meaning-making process through a bottom-up approach when the students were engaged in discussion with others.

Not everyone enjoyed learning via a bottom-up approach because many problems may arise. Some students did not enjoy actively seeking for an answer to a given problem themselves, and they may have felt dissatisfied with their feedback if it did not include a solution to the problems identified. Moreover, conflicts of peer review arise if the quantity and the quality of feedback received does not fit students' expectations. It might be difficult for teachers to ensure that the amount of feedback provided by students is similar to the amount of feedback they received. Failure to meet that expectation may lead to emotional changes (Carless, 2006). Furthermore, such emotional changes are further reinforced if critical feedback is received. Students may believe that the feedback givers are trying to find fault with them (Robinson et al., 2013). To prevent this from happening in the future, teachers may consider using exemplars for peer discussion instead of using the students' own work (Carless & Chan, 2017; Carless & Boud, 2018; Molloy et al., 2020). Exemplars are samples of work prepared by students in previous semesters which can be used as models of successful or unsuccessful writing strategies.

Although critical comments may lead to negative emotions in learning, they also have the potential to effectively remind learners of the errors they have made, thus helping them to avoid committing such errors in future assignments. From the perspective of social cultural theory, the feedback Lala and Long received scaffolded their learning and facilitated their cognitive development in their ZPD. It also mediated self-reflection on their own academic performance, in which the students were actively developing their judgement on the academic quality of pieces of writing. They were not passive recipients of knowledge but rather active agents of learning who actively engaged in making meaning of the information they reviewed.

5.3 Implications

Despite the lack of relationship between feedback conditions and task performance in different progress measures reported in this study, several implications can be drawn regarding the use of peer review from a theoretical, a practical, a cultural, and a policy level.

At the theoretical level, the present study used a quasi-experiment to compare students' task performance in a two-stage peer review (i.e., give-then-receive, receive-then-give). It also outlined the ways forward by collecting the students' opinions on the benefits of peer review through surveys and interviews. Together, the results of the study provide a comprehensive analysis of the impacts of peer review which may open up more research topics in the future.

At the practical level, it is worthwhile for teachers to consider employing the receive-then-give condition for two reasons: (a) the students in the receive-then-give condition in the quasi-experiment performed slightly better than those in the give-then-receive condition; (b) the data from both the survey and the interviews showed that the students in the receive-first condition were in general more positive about peer review than those in the give-first condition. As regards college management, they may consider providing teachers with more opportunities to learn more about peer review planning, such as using programme-wide planning in designing peer review activities (Carless & Boud, 2018). For example, teachers may consider using different methods, such as using structured feedback forms in the first year and then requiring students to prepare the more demanding written comments the following year. Furthermore, the quasi-experiment showed that there were some tendencies for students to be satisfied in terms of their learning when they were offered opportunities to read the work of others during the review process. These are important considerations for self-financed community colleges as student satisfaction is a major selling point for student recruitment.

At the policy level, the original aim of the sub-degree policy was to provide Hong Kong's fast-developing economy with skilled graduates capable of solving problems independently. To fulfil this aim, students needed to be trained to have a better sense of academic judgement regarding their own performance instead of just relying on the inputs from external sources. In fact, the development of judgement and decision-making to sustain learning is an important challenge for the higher education sector. Peer review, as the current study has shown, facilitates self-reflection within students' ZPD, which exerts an influence on their planning and actions to achieve their learning goals. Peer review helps to orientate instructional practice with an emphasis on self-regulation, which is something that the Hong Kong Government has been looking for.

5.4 Limitations and recommendations

This section aims to report the limitations of the study's design and to provide recommendations for college educators on developing a more consistent instructional practice which has a potential to maximize learning.

As the resources and manpower available to conduct this study were limited, convenience sampling was used in a naturalistic setting. I used a sample from the AD student population that was conveniently accessible without sample randomization. Inferences drawn from the findings of this study should be made only about the sample itself, not the whole population, due to the subjective nature of the sampling method. Even so, this study was conducted in a well-established community college which is the largest AD provider in Hong Kong. The features of courses in the college, such as the modular course design and the tutorial system supporting small group teaching sessions, are similar to those in university education. Therefore, the results of this study could be a good reference for interested teachers working in the same field. If more resources could be obtained in the future, for example, through research collaboration grants, the scope of the study could be increased, which might open up more possibilities in terms of methodologies, such as using sample randomization, so that the findings of the study could be generalized to a larger population.

In addition, a topic that I am particularly interested in is the development of the flipping classroom that has recently been adopted in the college. In the 2019-2020 academic year, when this dissertation was being developed, Hong Kong was facing a new wave of COVID-19 cases. All schools were shut down, and online classrooms were replacing the traditional ones. Students were not required to show their faces when they were attending the online classes, so how teachers intended to deliver their instruction to engage learning is a topic worth exploring.

5.5 Conclusion

This research study investigated the effects of giving and receiving peer feedback on learning in the context of a Chinese academic writing course in a Hong Kong community college. It employed a mixed-method approach consisting of three components: a quasi-experiment, surveys, and semistructured interviews. The quasi-experiment was conducted to compare the change in performance under different feedback conditions within the semester. The surveys and semistructured interviews were conducted to explore students' perceptions of the benefits of peer review.

The quasi-experiment showed that no significant relationship between any feedback condition and task performance, although the students in the receive-then-give condition made better progress than those in the give-then-receive condition. Mixed views on learning satisfaction were reported in the survey and interview data. More students found that the feedback they received was somewhat useful, and they had strong confidence in their peers' competence to give quality feedback on their work after the study. Negative emotions were also shown after peer review. For example, Jacky and Ali said they did not want to engage in peer review which consumed a lot of time for discussion, and thought that learning from the teacher was "the right path of learning". Finally, some evidence from the interview data showed that the students benefited from the peer review process; they reflected more on their own learning and became more active in taking control of the progress of their learning.

Implications can be drawn from the findings at a theoretical, a practical, and a policy level. At the theoretical level, both quantitative and qualitative data were used in this study to provide readers with a comprehensive analysis of the impact of peer review on learning. The two-stage peer review (i.e., give-then-receive, receive-then-give) used in the quasi-experiment and the interview data provide the students' perspective on how they benefited from the peer feedback experience in the long term. At the practical level, the results of the quasi-experiment showed that the students in the receive-then-give condition made better progress than those in the give-then-receive condition. College management may wish to consider providing teachers with more opportunities to learn about the implementation of the receive-then-give feedback condition in class. Furthermore, there were some tendencies for students to be satisfied with their learning when they were offered opportunities to read the work of others during the review process. These findings are important for community colleges because student satisfaction is often considered as a selling point for student recruitment (Wong, 2015). At the policy level, the sub-degree policy aimed to build an effective workforce for Hong Kong's fast-developing economy with skilled graduates capable of solving problems independently. Peer review, as the current study has shown, facilitated cognitive thinking, which exerted an influence on their planning and actions to achieve their learning goals. It helped orientate instructional practice with an emphasis on self-regulation, which is something that the Hong Kong Government has been looking for.

Convenience sampling was used in this study due to the limited resources and manpower, which implies that the results of this study may not be generalizable to a larger population due to the subjective nature of the sampling method. The scope of the study could be increased if more resources could be obtained in the future.

To conclude, I believe that peer review may take many forms, supporting students to go the extra mile in their learning. I hope that others can utilize this thesis as a reference in considering how teachers can improve existing feedback practice to increase task performance, enhance learning satisfaction, and facilitate self-regulation, thereby supporting the growth of the modern economy.

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Appendix A: Informed consent form of the study and the ethics application

The Consent Form

Exploring the impact on associate degree students' Chinese academic writing of giving and receiving peer feedback

I am Catherine Cheng, the researcher of this study. You are invited to participate in a research study which aims to investigate the impact of peer review on students' Chinese academic writings and their perceptions of its effectiveness. The findings of this study will provide insight into how the use of peer review can be used effectively to enhance students' academic writings. The data source in this study involves the academic writings that you wrote in class, responses from surveys and interviews.

If you agree to take part, you will be invited to engage in two peer review exercises and to answer survey and interview questions related to your previous and current learning experience on peer review. All the information you gave will be kept confidential and your participation will be treated anonymously. I will send you a copy of the study findings through email once the data analysis is completed. A meeting which explains the result will be organized if you want to know more. Following the meeting, I will publish the results so that other interested people may learn from the research. No information about participants will be used for other purposes.

If you decide to withdraw from the research, after agreeing to take part in it, you are free to do so without giving any reason and without your rights being affected in any way. Your choice will not have any bearings on your study at the college. Your participation is entirely voluntary.

Benefits and Risks

You will have more chances to practice your academic writings, to receive and give peer feedback under the guidance of the teacher/the researcher. The intervention programme is conducted at the college which rarely causes physical risk. Yet, you may refuse to continue anytime if you feel you are at risk.

Who to Contact

This research is conducted by Catherine Cheng, a doctoral student at the Graduate School of Education in the University of Bristol. I would like to seek for your written permission to allow us to conduct the interviews and other research activities. It would be grateful if you would complete the enclosed consent form for me. Should you have any inquiries, please feel free to contact Catherine Cheng at 3746 0104 or cccheng@hkcc-polyu.edu.hk. Her dissertation supervisor is Dr. Janet Orchard, from the same faculty of the university. You may contact her on janet.orchard@bristol.ac.uk if you have any complaint. Thank you very much for your help and Interest.

Declaration

☐ I have been invited to participate in this research about peer feedback. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions, which have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

☐ I prefer not to participate in this study.

Name of Participant: Signature: Date:

Name of Researcher: Signature: Date:

Ethics Applications

Name:

Catherine Cheng

Proposed research project:

Exploring the impact of peer review on students' academic writings and students' perception of its effectiveness

Discussant for the ethics meeting:

Ki Ka Wing(Cohort 13), Woo Grace (Cohort 11)

Name of supervisor:

Dr Joyceln Wishart

Please include an outline of the project or append a short (1 page summary):

Has your supervisor seen this submitted draft of your ethics application? Y/~~N~~

Ethical issues discussed and decisions taken (see list of prompts overleaf):

Please refer to the next page

If you feel you need to discuss any issue further, or to highlight difficulties, please contact the GSoE's ethics co-ordinators who will suggest possible ways forward.

Signed:____[redacted]esearcher)
Name: ____[redacted]esearcher)

Signed:_[redacted](Discussant 1)
Name: _[redacted](Discussant 1)

Signed:__[redacted](Discussant 2)
Name: __[redacted](Discussant 2)

Date: 23 Feb, 2016

1

Ethical issues discussed and decisions taken

Project title: Exploring the impact of peer review on students' Chinese academic writings and students' perceptions of its effectiveness

a. Researcher access/ exit

I am the researcher of this study. I work at the Hong Kong Community College as a language teacher where this study takes place. The target participants are the College students who would be directly approached by me. Convenience sampling would be used. Before the study begins, I will introduce the aims of the study to the participants, how the data collected would be used, and how participants' rights are protected. This aims to make them feel comfortable, and to answer any questions they may have.

b. Information given to participants

An information sheet providing the details of this research, including aims of this research, how data would be used, the participants' right to withdraw, and my contact will be given to participants. I will share and discuss the information sheet to participants face-to-face, and answer the questions they raised.

c. Participants' right to withdraw

Participants will be informed that their participation of this study is voluntary. This is emphasized in the information sheet, and verbally by the researcher before the study begins. For those who withdraw from the study, their data will not be included in the analysis of the final dissertation.

d. Informed consent

The target students are aged over 18. When students are invited for this study, they will be provided with the information sheet specifying details of this study. They will be invited to sign the consent form if they agreed to take part in the study.

e. Complaints procedure

Contacts of my supervisor in my study will be provided to my students. In case of complaints or enquires, students may contact her directly.

f. Safety and well-being of participants/ researchers

This study will be conducted at the College that I work at. All academic activities take place in the College is insured. Participants will be audio recorded, and the data in transcribed documents will be encrypted with a password.

g. Anonymity/ confidentiality

Apart from collecting informed consent, participants will be briefed on their rights of confidentiality. Their real names will not be shown in the study.

h. Data collection

Audio interviews recordings, the transcribed documents from the recordings, the questionnaire responses will be encrypted with passwords.

i. Data storage

I will keep the data collected on "OneDrive for Business", which is an online storage system provided by the College. It provides a free at the point of use, scalable, reliable and secure centrally managed storage service for use by College academic staff. It is

secure. The College provides automatic backup from time to time. Moreover, the data is encrypted with password and the data stored will only be accessible by me. Audio data will be deleted after completing and presenting the research.

j. Feedback

Participants will be offered a briefing of the research outcomes on request, and will be given my email contact for this purpose.

k. Responsibility to colleagues/academic community

The research has been planned with consideration of the rights of the participants, and will be carried out following ethical procedures and approaches discussed within. I am committed to maintain the reputation of the Graduate School of Education and the University of Bristol and will avoid fabrication and misrepresentation of the data and results.

l. Report of research

Participants will be informed that this research is part of a unit contributing to a Doctoral of Education degree. The results will be shared with the dissertation supervisor, as well as with participants during a conference.

Prepared by Catherine Cheng

Appendix B: The prestudy and poststudy survey questionnaires

Prestudy questionnaire survey

Dear Students,

In order to investigate the impact of peer review on students' academic writing and their perceptions on its effectiveness, I would like to invite you to complete the following questionnaire that may take you around 5 minutes. The data collected will be processed by me and it will be only accessible to me and my doctoral supervisor. All the information collected in the questionnaire survey will be held in the strictest confidence. Participation is completely voluntary, and it will not affect your course grades.

It would be very kind of you to return the questionnaire by putting it (either blank or completed) to the collection box that circulate at the class. May I take this opportunity to thank for your support.

Regards

Catherine Cheng

Name: _____ Class: _____

Please tick as appropriate

☐ I have been invited to participate in this research about peer feedback. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions, which have been answered to my satisfaction. I consent voluntarily to complete this survey.

☐ I prefer not to participate in this study.

Name of Participant: _____ Signature: _____ Date: _____

Name of Researcher: _____ Signature: _____ Date: _____

Part 1: Previous experience

Q1**:** Have you experienced peer review before? □Yes □No □Not sure

Part 2: HKDSE scores

Q1**:** What was the total scores of your best five subjects in the HKDSE? _____

Part 3: Motivation scores

Q1: I like opinions from peers because I can get more ideas.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q2: Learning will be more impressive if I could get peers' comments on my essays.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q3: I know my ideas would become better if I discuss them with peers.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Part 4: Overall perceptions

Q1: I expect peer feedback will be ___ to my learning.

□very useful □somewhat useful □no opinion □not very useful □useless

Q2: I expect I will learn most from:

□Giving comments □Receiving comments □Both □Not sure

Q3: I think my peers could give quality feedback on my work.

□Strongly agree □Agree □Neutral □Disagree □Strongly disagree

Again, thank you for your participation.

(End)

Poststudy questionnaire

Dear Students,

In order to investigate the impact of peer review on students' academic writing and their perceptions on its effectiveness, I would like to invite you to complete the following questionnaire that may take you around 5 minutes. The data collected will be processed by me and it will be only accessible to me and my doctoral supervisor. All the information collected in the questionnaire survey will be held in the strictest confidence. Participation is completely voluntary, and it will not affect your course grades.

It would be very kind of you to return the questionnaire by putting it (either blank or completed) to the collection box that circulate at the class. May I take this opportunity to thank for your support.

Warm regards

Catherine Cheng

Name: _____ Class: _____

Please tick as appropriate

☐ I have been invited to participate in this research about peer feedback. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions, which have been answered to my satisfaction. I consent voluntarily to complete this survey.

☐ I prefer not to participate in this study.

Part 5 Overall perceptions (Part 1 to 4 were included in the prestudy survey)

Q1: Peer feedback was ___ in enhancing my learning.

□very useful □somewhat useful □no opinion □not very useful □useless

Q2: I learnt most from:

□Giving comments □Receiving comments □Both □Not sure

Q3: My peers provided quality feedback comments on my work.

□Strongly agree □Agree □Neutral □Disagree □Strongly disagree

Part 6 Perceptions on individual elements of peer review

Q1. I could tell the strengths of my peers' work after reading it.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q2. I could tell the weakness of my peers' work.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q3. I could give helpful opinions when I review peers' work.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q4. I felt cognitively challenged and could think of more ideas after reading my peers' work.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q5. I could identify the problems in my own work after reviewing.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q6. The reviewing experience triggered my learning.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q7. The comments received inform me about the strengths of my work.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q8. The comments received inform me about the weakness of my work.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q9. I have received helpful comments from my peers.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q10. I felt I have learnt from the received comments.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q11. I could identify the mistakes or problems in my own work through receiving peer feedback on my work.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Q12. Multiple perspectives included in the feedback that I received triggered my learning.

□ 5-Strongly agree □4-Agree □3-Neutral □2-Disagree □1-Strongly disagree

Part 7: Other comments:

Any things you would like to mention about your experience in peer review?

Thank you for your participation. (End)

Appendix C: Feedback form

Feedback form

Essay ID: _____ Givers' student ID:_____

The number of essays I have reviewed (not including this one): _____

Part A: Purpose of writing

What was writer's purpose of writing? Please write down two key ideas of this essay.

I know what the writer wants to tell in his or her work.

□5 Strongly understood. □4 □3 □ 2 □1 Strongly Disagree

Part B: Identifying problems

1. *Highlight three r linguistic errors in the essay.*
2. *Number each error, and categories the type of errors they belonged to.*

Number	Categorization
	□**A**-Cohesion □**B**-Coherence □**C**-Redundancy □**D**-Word order □**E**-Usage □**F**-Sentence Fragmentation □**G**-Mechanics □**I**-Comments other than mentioned above
	□**A**-Cohesion □**B**-Coherence □**C**-Redundancy □**D**-Word order □**E**-Usage □**F**-Sentence Fragmentation □**G**-Mechanics □**I**-Comments other than mentioned above
	□**A**-Cohesion □**B**-Coherence □**C**-Redundancy □**D**-Word order □**E**-Usage □**F**-Sentence Fragmentation □**G**-Mechanics □**I**-Comments other than mentioned above

Part C: Explanations/elaboration

1. *Explains or elaborates the problems identified.*

2. *Comparing with other essays that I have reviewed, the linguistic mistakes that have been committed in this essay were：*

□5 More than the others □4 □3 □2 □1 less than the others

3. *Do you have any explanation or suggestions based on your answers in part B?*

Part D: Others

Do you have any other comments?

Appendix D: Task rubrics

Rubric for Argumentative Essay

Student's Name:_____

Component	Description	Score
Idea development 40% 37-40% Excellent 28-36% Good 15-27% Average 0-14% Below average	Main idea is supported with evidence	
	Including specific, relevant background details, and also addressing the best arguments of the opposition;	
	Offering insight into the field with significant reflection on the problems.	
Presentation 40% 37-40% Excellent 28-36% Good 15-27% Average 0-14% Below average	Coherence— The main ideas follow through the essay providing a clear flow to the readers	
	Excellent choice of words: Precise terms used with variety expression. Clichés avoids. No verb tense or sentence agreement problems	
	Paragraphs have a main idea and a topic sentence. Well elaborated with examples.	
Mechanics 20% 17-20% Excellent 8-16% Good 5-7% Average 0-4% Below average	Within 5 grammatical error per page	
	Deduct 0.5 marks for each mis-formed Chinese character, (maximum 5 marks). Deduct 1-3 marks for any incorrect formats.	
	Using APA format	
Comments:		Total score:

Appendix E: Sample for training

(Below is a Task 2 sample used for training for reviewing and using feedback for revision.)

Personal statement I love traveling since forgotten. I might be attracted by the culture of different countries; I might be attracted by their food; I might be attracted by their local customs. Every journey impressed me a lot, and commonly, one indispensable part of the journey was a place for us to take a rest—the hotel. [1. Delete these sentences. Focus on the hotel, not travelling. Tell people why you want to study hotel management] B. Every hotel gives me different feelings, such as friendliness, fashion, and business[2. nouns are needed] E, etc. This makes me interested in how a hotel operates. And, hotel management can satisfy my curiosity in running a hotel, and that's why I hope to study hotel management, in the future I could work for the hotel industry, serving others.	**Part A: Training for reviewing** Based on the guiding questions, please help identify the questions in the essay, diagnose the problems or provide suggestions. ① Can the title tell the writing purpose of the essay? Please explain. Feedback: _____. ②Do you know the main argument of this essay? Please suggest a thesis statement in the first paragraph. Feedback: _____. ③ What is the point of this paragraph? Feedback: _____. ④ What is the point for this paragraph? Summarize your view into one sentence. Feedback: _____. ⑤ How will you suggest restructure the paragraphs to organise the ideas? Feedback: _____. **Part B: Training for using feedback** Based on the instruction/question in the following item, revise the paragraph (A). Define "dialect" and "first language". Add one more sentence after your definitions to explain why "Cantonese is a dialect, not a first language" matters. Revision: _____ _____ _____

	(B) Are there any terms that need to be defined? Revision: _____ _____ _____ (C) Read the underlined sentence. Who said that? Add the relevant information whenever appropriate. Revision: _____ _____ _____ (D) Add one or two linking sentences between this and the above paragraph. Revision: _____ _____ _____ (E) Add an interpretation at the end. Repeat the main argument of this essay. Revision: _____ _____ _____

Appendix F: Invitation letter for semistructured interviews

Dear Students,

Letter of invitation to participate in the research project on the impact of peer review

I am Catherine Cheng, a student of the Doctor of Education programme (EdD) of the Graduate School of Education in the University of Bristol. I am conducting a research on the impact of peer review on students' Chinese academic writing and their perceptions of its effectiveness, and I would like to extend an invitation to you to participate in this research by attending a one-on-one semistructured interview lasting for about half an hour.

The interview would be held at the college in Week 18-19, about one month after the complete of the semester (the exact time will be confirmed with you on the phone). During this interview, I will ask you some questions about your experience in giving and receiving feedback in the peer review exercises in this study. I will give you an opportunity at the end of the interview to review your remarks. You can ask me to modify or remove portions of those which you do not agree with.

Your personal information will be kept private and confidential. You will be given a false name and identifiable information will never be used in a publication or presentation. No information about participants will be used for other purposes. I will send you a copy of the study findings through email once the data analysis is completed. A meeting which explains the result will be organized if you want to know more. Following the interview, I will publish the results so that other interested people may learn from the research.

Participation in this research is completely voluntary and you may choose to withdraw from the research at any time or not answer questions that you do not feel comfortable answering. If you have any further questions about the research, please feel free to contact me via email at mscheng2004@gmail.com or on my mobile at 9336 0930. My dissertation supervisor is Dr Janet Orchard from the same faculty of the university. You may contact her on janet.orchard@bristol.ac.uk if you have any complaint. Thank you very much for your help and interest.

Regards,
Catherine Cheng
EdD student of the University of Bristol

A Consent form of student interview

Please tick as appropriate

☐ I have been invited to participate in this research about peer feedback. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions, which have been answered to my satisfaction. I consent voluntarily to attend the interview.

☐ I prefer not to attend the interview.

Student's signature: _____ Student's name: _____

Date: _____ Contact number: _____

Appendix G: Interview protocol

1. Introduction (Beginning script)

Hello, _____! My name is Catherine Cheng. I am a doctoral degree student from the University of Bristol. Thank you for taking the time to talk with me today.

The purpose of this interview is to learn about the effect of receiving and giving peer feedback on task performance and its perceived usefulness from students' perspectives. There are no right or wrong answers. I would like you to feel comfortable saying what you really think and how you really feel. If it's okay with you, I will be tape-recording our conversation since it is hard for me to write down everything while simultaneously carrying an attentive conversation with you. Everything you say will remain confidential, meaning that only myself and my supervisor will be aware of your answers - the purpose of that is only so we know whom to contact should we have further follow-up questions after this interview.

I hope that the arrangement looks fine to you. (Answer the questions raised by students).
(Check if students have questions. Invite them to sign the form if they are happy with the arrangements)

2. Meaning of peer review from previous experience

What is peer review, from your previous experience?
Can you describe the typical procedure of peer review, from your experience?
What were students supposed to do? What do you actually do?

3. Perceptions of giving feedback

Tell me about your reviewing experience.

- How do you feel when you performed reviewing?
- What is the role of giving feedback in your learning?
- Any other concerns?

4. Perceptions of receiving feedback

Is the feedback you received useful for your learning?
How do you feel when you receive feedback?
What is the role of receiving peer feedback in the classrooms?

5. Usefulness of learning

Is receiving or giving peer feedback useful to learning?
Can you think of an effect to your learning that brought by peer review?

6. Transfer of learning

Did you use what you have learnt from peer review to the next task?

7. Comparison between the previous and current learning

Compared with the experience in the present study, in what sense would you say it was similar/ different?

Which setting, past compared with the present one, do you prefer? Why?

How were the academic writing classes conducted? Which teaching methods, past compared with the present ones, do you prefer? Why?

8. Summary

Thank you, _____(the name of the interviewee).

(Summary of the points that interviewees made is provided.)

This is the point that our interview should come to a close. Thank you very much for your time and your opinion is very important to this study. May I know if you have any final thoughts on the interviews? (Be silence, and create a space for the interviewees to fill in.

Appendix H: Task instructions

Instructions for Task 1 (Responding to a newspaper editorial)

Write an essay to express your thoughts about a newspaper's opinion on a social issue in Hong Kong (about 600-800 words).

Instructions for Task 2

Write a personal statement for your university application. Explain that you are the perfect candidate for the course you are applying to (about 600-800 words).

Instructions for Task 3

Write a response to the following complaint letter (about 600-800 words).

Dear Manager,

We wish to express our concern regarding the bathroom facilities in Hung Lok Road, Hunghom. Because of the park's convenient location, our neighbourhood children spend many hours after school playing on the playground equipment and they sometimes use the park bathroom.

Some of us visited the facilities this morning and were horrified to see their condition. Someone has broken the toilet, leaving a gaping hole over the exposed sewer. The children claim it has been that way for weeks. Spray paint can be found on wall or other surface in the bathroom. Until something is done, the bathroom is definitely off limits for our neighbourhood kids.

Please, either close the facility or repair it immediately. It presents a clear danger to the public health, to say nothing of the moral pollution it represents. We the undersigned ask that your office take swift action. We will be happy to cooperate in any way we can.

Thank you.

Regards
Catherine Cheng

(End)